DOCUMENT RESUME

ED 441 397 IR 020 293

AUTHOR	Tate, Lori S., Ed.
TITLE	Curriculum Snapshots: Picture Technology in Your Classroom!
INSTITUTION	SouthEast and Islands Regional Technology in Education Consortium, Greensboro, NC.; AEL, Inc., Charleston, WV.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	2000-00-00
NOTE	108p.
CONTRACT	R302A980001
AVAILABLE FROM	AEL, P.O. Box 1348, Charleston, WV 25325-1248. Tel: 304-347-0400; Tel: 800-624-9120 (Toll Free); Fax: 304-347-0487; e-mail: aelinfo@ael.org. For full text: http://www.ael.org.
PUB TYPE	Guides - Non-Classroom (055) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Class Activities; *Computer Assisted Instruction; *Computer Uses in Education; Educational Resources; Educational Technology; Elementary Secondary Education; Instructional Materials; Learning Activities; Teaching Methods
IDENTIFIERS	*Technology Integration

ABSTRACT

This booklet provides glimpses into the classrooms of real teachers at various stages of technology integration. The "Snapshots" offered in this document illustrate appropriate and creative uses of technology at many grade levels and within different subject areas. The Curriculum Snapshots are organized by grade level (K-2, 3-5, 6-8, 9-12). Each Snapshot indicates the focus of the activities (topic), grade, and source (contributing teacher), and includes a photo of the teacher or of students working on the topic. Following the activity suggestions presented for each topic, are useful software and hardware and supplementary content-related resources such as Web sites and videos. Sections at the end of the booklet describe both general software types and specific software and video programs, and list software publishers and producers. (AEF)

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ED 441 397

Curriculum Snapshots

Picture Technology in your Classroom!

IR020293

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Curriculum Snapshots

Picture Technology in your Classroom!

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AEL operates the Technology Consortium under a subcontract with the SouthEast and Islands Regional Technology in Education Consortium (SEIR◆TEC)—one of six regional technology consortia established by the U.S. Department of Education to accelerate school reform initiatives through the integration of advanced technologies into the instructional process. SEIR◆TEC at AEL provides technology-related assistance through awareness presentations, policy development and planning, staff development, and evaluation.

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Tammy M. McGraw, Director

Research is funded by SEIR◆TEC (Southeast and Islands Regional Technology in Education Consortium) at AEL and based on work sponsored wholly or in part by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under grant number R302A980001. Its contents do not necessarily reflect the views or policies of OERI, the Department, or any other agency of the United States government.

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Preface and Acknowledgments

I wish to thank and acknowledge the many individuals who assisted with this project:

- Tammy McGraw for the concept and creation of *Curriculum Snapshots*, Betty Blair for assistance with curriculum software, and John Ross for creating the database.

- The teachers of Franklin County Public Schools for sharing ideas that eventually became *Curriculum Snapshots*.

- The U.S. Department of Education Technology Innovation Challenge Program for supporting the professional development activities in Franklin County that were used as a catalyst for this project.

- Olympus America Inc. for providing the camera picture for the cover.

- Karen Busher, Virginia Seale, and Dan Shoemaker for assistance with the initial writing process.

- The AEL communications staff who helped to prepare this manuscript for publication: Carolyn Luzader for ushering it through revisions and assisting with design and layout; Dawn Pauley for creating the graphic design; Nancy Balow, Stan Bumgardner, Carla McClure, and Marilyn Slack for copyediting and proofreading the text; Jeniffer McCoy for verifying Web sites and providing assistance whenever and wherever needed.

Special thanks go to Franklin County Public Schools staff for their contribution to this project, especially Marcie Altice and Cindy Spencer for their never-ending assistance.

A big thank you to the following for giving us permission to use their software descriptions:

- Avid Technology, Inc.
- California Instructional Technology Clearinghouse
- Dole Food Company
- Don Johnston Incorporated
- Forest Technologies
- The Center for Image Processing in Education
- Tom Snyder Productions

Photography by Nichol's Studio of Photography, Rocky Mount, VA
Stock photos by PhotoDisc Education, Volume 24, Seattle, WA

—Lori S. Tate, Editor

The Web addresses and software programs cited in this document are for the reader's ease of reference. They are not intended to be comprehensive; neither should their inclusion be interpreted as an endorsement of any corporation's products or services by SIER◆TEC at AEL. All Web addresses were active at the time of publication.

Introduction

Picture This

Imagine your in-box stuffed with educational software, Web site listings, and descriptions of new technologies. Which would you rather do: (a) *read a manual that tells you how to incorporate these items into your teaching repertoire* or *(b) observe teachers who are already doing it?* If you selected *b, Curriculum Snapshots* is the guide for you. It allows busy teachers who want to integrate technology into their own classrooms to "visit" other classrooms for ideas and inspiration.

The snapshots offered here are not intended to be ready-made lesson plans. Neither are they portraits of isolated activities. They are glimpses into the classrooms of real teachers at various stages of technology integration. They illustrate appropriate and creative uses of technology at many grade levels and within different subject areas. Contributing teachers name useful software and hardware as well as supplementary content-related resources such as Web sites and videos. Lists of software types, software and video descriptions, and software publishers/producers are also included.

Curriculum Snapshots grew out of lesson plans developed in Franklin County Public Schools. This work was accomplished as a result of a $1.5 million U.S. Department of Education Technology Innovation Challenge Grant awarded to the county in 1996. The grant provided staff development and support services for all staff in the southwest region of Virginia and telecommunications access for Franklin County Schools.

The intent of this collection is to help teachers use instructional technology in meaningful ways. The advantages of doing so are becoming increasingly apparent. Technology can be used as a hook to draw students into the subject matter. It can also accommodate students with learning differences, provide more flexibility in allowing them to pursue their own interests, and stimulate creativity. Teachers report that when students are engaged in cooperative learning activities that incorporate technology, they learn about both the subject matter and the computer from one another. The use of technology enhances students' information literacy—their ability to recognize when information is needed and their knowledge of how to locate, evaluate, and use it effectively. This ability is vital to students' future success in an information-based economy. Technology can also connect students to other students, to the community, and to people and information from all over the world.

Teachers engaged in this evolutionary process should not have to work alone. Professional development, support from the school and district, and access to appropriate resources are vital to their success. Teachers can also "plug into" an expanded professional community via the Internet. But they shouldn't forget the teacher across the hall or across town who might be just as willing to share ideas as the teachers pictured in this collection.

Since no two classrooms are alike, educators may find they need to adapt the lesson ideas to the abilities of their students and the availability of technology in their particular classrooms. *Curriculum Snapshots* provides educators this "plug in" of ideas and activities for infusing technology into their classroom. Take a moment to read not just the snapshots for your grade level or subject but those for other areas and grades. Every page holds exciting strategies and activities from practicing teachers–snapshots into their world that may open up a new world for you and your students.

Submit Your Own Curriculum Snapshot to Our On-line Collection!

For information on how to add your snapshot to our on-line collection, visit our Web site at http://www.ael.org/snapshot.

Grades K-2

Curriculum Snapshots

Focus:
Christopher Columbus

Grade:
Kindergarten

Source:
Linda Barnhart
Sontag Elementary

Linda Barnhart makes sure students know the origin of Columbus Day.

Commemorative holidays honor important people and events. Columbus Day celebrates the Europeans' discovery and early exploration of North America. Before starting the following activities, have students follow along as you read aloud the story of Christopher Columbus.

- Introduce students to the people who helped shape America with National Geographic's *People Behind the Holidays*. This program allows students to see and hear people who helped shape America, including Christopher Columbus. They learn vocabulary associated with these people and see their homes and famous scenes from their lives.
- As they read further and listen to audiotapes, students use digital cameras and scanners to help them create individual booklets about Christopher Columbus.
- Students learn a song about Columbus. After the teacher has written the words to the song on the board, students can use *Kid Works Deluxe* (a creativity tool designed especially for young students) to type the lyrics, draw, or paint pictures to illustrate the song. A volunteer or tutor may assist with this activity.
- Students can visit the *Columbus's Ships* Web site, where they learn about the *Niña*, *Pinta*, and *Santa Maria*. They can include pictures and information about the three ships and information about the continents of North America and Europe in their booklets.
- With the teacher's help, students can use *The Graph Club* to create a graph to compare the size, weight, and speed of the three ships. Students will determine which ship was the largest, which was the smallest, which one traveled the fastest, and which was the slowest.

A popular culminating activity is construction of model ships and globes.

Resources:

Columbus's Ships.
http://www1.minn.net/~keithp/ships.htm
Scholastic Books. *In 1492*. Audiocassette by Jean Marzollo.

Software & Hardware:

Knowledge Adventure. *Kid Works Deluxe*.
Tom Snyder Productions. *The Graph Club*.
National Geographic Society. *People Behind the Holidays*.
Digital camera, scanner, cassette player

Curriculum Snapshots

Focus:
Exploring Birthdays

Grade:
Kindergarten

Source:
Shirley Stiles
Sontag Elementary

Shirley Stiles teaches basic math and language skills by capturing students' attention with a familiar theme—birthdays.

Yearly birthday celebrations featuring cake and gifts are exciting events for children. Data about birthdays—their own or others'—is easily generated by kindergarten students. These factors make birthdays a natural theme around which activities such as these can be organized:

- Take an inventory of class birthdays by month and year. Then use *The Graph Club* to create a graph showing which months feature the greatest and least number of birthday celebrations among the class.
- Make counting books illustrated with birthday-related items (e.g., candles, cakes, and gifts).
- Use *TimeLiner* software to create a time line that charts important milestones in students' personal history (their first tooth, first word, first step, etc.). Students will probably need to consult their parents for some of this information.
- Explore *Arthur's Birthday Deluxe*, a CD-ROM that offers an interactive reading experience that engages students through images, sounds, music, animation, and games. The CD-ROM includes templates that students can use to write party invitations, construct a "Happy Birthday" booklet, and create a birthday newsletter. Teachers can generate functional spelling lists that include the names of months, days, seasons, and numbers.
- Let students take each other's picture with a digital camera. Pictures can be printed and displayed on a birthday bulletin board.

Software & Hardware:

Broderbund Software. *Arthur's Birthday Deluxe.*
Tom Snyder Productions. *TimeLiner.*
Tom Snyder Productions. *The Graph Club.*
Digital camera, scanner

Curriculum Snapshots

Focus:
Life Cycle of the Butterfly

Grade:
Kindergarten

Source:
Vicki Hodges
Rocky Mount Elementary

Vicki Hodges finds that studying the life cycle of the butterfly can "cocoon" many excellent spring activities.

It takes about 21 days for a caterpillar to change into a butterfly. Prepare students to observe this event firsthand by reading *The Very Hungry Caterpillar* and showing the video *Big Green Caterpillar.* Then propose that the class adopt a caterpillar (one way to obtain these is to order them on-line at the *Painted Lady Butterflies* Web site). Ask students to predict whether it will become a butterfly or a moth. As the caterpillar undergoes its transformation, involve children in related activities:

- Visit the *AntBoy's Bugworld!* Web site and use CD-ROMs such as *Sammy's Science House* and *Kid Pix Creepy Crawlies* to learn more about butterflies.
- With help from the CD-ROM *Learn about Insects*, students create their own imaginary insects and insect homes. They dictate their stories about the insects to a volunteer or tutor who types them in a word processing program. With a little assistance, students can print out their stories. This program works for students at varied reading levels.
- For math, children tally a butterfly's life cycle, sequence the stages of its growth, and compare the sizes of different caterpillars.
- Children enjoy making caterpillars and butterflies from materials such as egg cartons, paints, paper plates, clothespins, pipe cleaners, and modeling clay. After they finish their creations, they tell the teacher about the different stages in the life of a "real" butterfly.

As the class's adopted caterpillar reaches the chrysalis stage and finally emerges as a butterfly, take pictures with a digital camera. Take pictures also as children release the butterflies outdoors. These photos are downloaded to a computer and printed out for bulletin boards, art projects, and class presentations.

Resources:

AntBoy's Bugworld!
www.heatersworld.com/bugworld
Collection of butterfly sites–Painted Lady Butterflies.
http://edtech.kennesaw.edu/web/butfly.html
Standon Films. *Big Green Caterpillar.*
Videocassette.
Book: *The Very Hungry Caterpillar* by Eric Carle.

Software & Hardware:

Edmark. *Sammy's Science House.*
The Learning Company. *Kid Pix Creepy Crawlies.*
Sunburst Communications. *Learn About Insects.*
Digital camera, video camera

Curriculum Snapshots

Focus:

Life Processes of Plants & Animals

Grade:

Kindergarten

Source:

Kristie Turner
Snow Creek Elementary

Kristie Turner taps into the power of technology to help children observe and record the processes of nature.

Why is the sky blue? Where do babies come from? Why are my eyes brown? Children are naturally curious about the world they live in. Help them focus this curiosity on an animal they would like to learn more about. The CD-ROM *Animals and How They Grow* introduces students to many amphibians, insects, reptiles, mammals, and birds. Information about various animals is available through both sound and text files. As they listen to the stories, students can click on any word to hear it pronounced or defined. Each student creates a booklet showing the various stages of development of an animal.

The teacher or an aide can help students with other activities:

- Children collect or take pictures of the various stages of development of classroom pets, animals observed during field trips, or even family members.
- Survey the class on selected topics (e.g., class pets). With assistance from the teacher, young students use *The Graph Club* to display the collected data in a graph.
- Students create a book about their family that includes pictures of parents or guardians and siblings. They may also include family pets if they wish. Digital cameras and scanners are used to create illustrations.
- Plot a time line of the various stages of development of an incubated egg, a caterpillar inside a cocoon, or a tadpole becoming a frog.
- Adopt classroom pets such as fish, frogs, and insects. Visit a nearby farm or petting zoo. Use a word processor to record observations about animals and their offspring.

For more ideas about classroom projects for young students, visit the Web site *Tammy's Technology Tips for Teachers*. The *North Georgia RESA—Just for Kids* Web site provides activities that reinforce learning across the curriculum and fun things for kids to do.

Resources:

North Georgia RESA—Just for Kids.
http://206.155.140.3/kids.html#ANI
ESSDACK Online—Tammy's Technology Tips for Teachers: Classroom Projects.
http://www.essdack.org/tips/index.html

Software & Hardware:

Tom Snyder Productions. *TimeLiner.*
Tom Snyder Productions. *The Graph Club.*
National Geographic Society. *Animals and How They Grow.*
Scanner, digital camera

Curriculum Snapshots

Focus:
Positional Concepts

Grade:
Kindergarten

Source:
Jennifer Brubaker
Rocky Mount Elementary

Jennifer Brubaker uses technology to help students learn positional concepts.

Objects can be described in terms of physical properties such as position (over, under, in, out, above, below, left, right) and speed (fast, slow). To help young children understand this concept, introduce them to the book *Front Frog Fred and Back Frog Jack* by Mr. Sunshine.

Follow up with related classroom activities:

- Students place various objects around the room. Then they take turns describing an object's position (near/far, up/down, left/right, behind/in front) relative to other objects or people.
- Use the CD-ROM *Spatial Relationships* to present mathematics-based investigations that help young children recognize and describe spatial relationships. The program supports core skills in mathematics, so it can be used throughout the year. Especially interesting are activities that integrate geometric patterning and music.
- In their journals, students draw imaginary paths through buildings, streets, forests, or other places they include in their illustrations. They use positional concept words to describe the path, either verbally or in writing. Students also create maps as part of a social sciences unit. Again, they use positional concept words to explain relationships between points on the map or to describe the path of an explorer or trader.
- Students have their pictures taken with a digital camera as they act out positional words, such as standing *behind* a slide or walking *across* a balance beam. Students tell about their pictures as an aide, volunteer, or older student writes the description on paper. Pictures and text are combined to create a booklet. Alternately, a video camera can be used to videotape children acting out positional words. Children enjoy watching themselves on film and telling others which positional concept they are demonstrating.
- "Circle Game" is a song that reinforces positional words by directing children to use hula hoops in various ways—a great activity to use during physical education periods. The song is included on a CD by Hap Palmer.
- A CD-ROM called *JumpStart PreK-Third Grade* includes a video game that reinforces the concepts of *left* and *right*. Let students play the game during breaks or at other designated times.
- Each student is assigned a positional word and colors or paints a picture that illustrates the word. Each picture is posted above a different computer. Students then rotate from one computer to another as they each dictate to a volunteer or tutor who will type a sentence about the posted picture. The sentences are printed out and attached to the original artwork.

Resources:

Tenth Planet. *Circle Game*. Cassette or CD.
Book: *Front Frog Fred and Back Frog Jack* by Mr. Sunshine.

Software & Hardware:

Knowledge Adventure. *JumpStart PreK-Third Grade*.
Tenth Planet. *Spatial Relationships*.
Digital camera, video camera, tape recorders

Curriculum Snapshots

Focus:
Welcome to School

Grade:
Kindergarten

Source:
Jackie Pullen
Glade Hill Elementary

Jackie Pullen uses technology to welcome new students to the school and to inject excitement into the first few days of kindergarten.

During orientation sessions, the teacher takes pictures of each new student with a digital camera. The printed pictures are inserted into keepsake certificates that read "[name of student] registered for kindergarten at [name of school] on [date]." Students take the certificates with them when they leave the orientation session. The digital pictures are used later on welcome signs, name tags, gift tags, newsletters, or bulletin boards. Technology can also be used in other ways in the classroom:

- Give each student a card with his or her name printed on it. The teacher inserts students' pictures in a word processing file. Then let the students practice typing their names. Let them print out a page that has their name and picture on it. Encourage them to draw pictures on the page to illustrate their first day or week at school or their favorite school activity.
- After listening to stories read by the teacher, students create their own stories. *Storybook Weaver*, a CD-ROM, allows them to create stories quickly and easily on the computer. To illustrate their stories, students select from a database of images. They can dictate to a volunteer or tutor or illustrate with images. Teachers can help students scan their stories and other work into a presentation format to share with parents and visitors during back-to-school night. An alternative is to videotape children telling their stories or performing skits.
- Help young children deal with new situations and choices they face every day by introducing them to Tom Snyder's *Choices, Choices: On the Playground*. This award-winning program helps students learn about cause-and-effect relationships. It teaches them how to balance their own values with the expectations of others. Topics covered include friendship, having fun at recess, staying out of trouble, and helping the new kid at school.
- Through videoconferencing, the class can "visit" other classrooms across the county, state, or country to see what is the same and what is different about kindergarten in other places.
- The teacher can help students post their stories and other work on the school Web site. The class can also search the Internet together for children's stories on-line such as *Web Time Stories with Webster for Little Webcrawlers*.

Resources:

Web Time Stories with Webster for Little Webcrawlers. http://www.webtimestories.com

Software & Hardware:

Softkey/MECC. *Storybook Weaver*.
Tom Snyder Productions. *Choices, Choices: On the Playground*.
Word processing software, presentation software
Digital camera, video camera, videoconferencing equipment

Curriculum Snapshots

Focus:
Farms

Grade:
One

Source:
Kathy Law
Glade Hill Elementary

Kathy Law uses a variety of fiction and nonfiction literature to help her students learn more about farm life.

Introduce young children to farm life with the *Old MacDonald Had a Farm* CD-ROM. This interactive electronic book lets students gain insight into farm life and allows them to create farm life pictures in the paint program. The multimedia musical storybook *Sitting on the Farm* allows students to click on words to hear them pronounced, or to receive animated definitions. Students can listen along, sing along, or read along. Students can record their own singing and record musical options for the background. A local farmer may be invited to speak to the class about farming. Students can also study the early settlers and how they used their animals and crops.

Students can take a field trip to a farm, record interviews, and take pictures with a digital camera. They can write stories, write a play about farm life "now" and "then," interview farmers, and keep a journal on plant growth. They can gather information from the Internet about farms and use the Internet and visit with an on-line agriculture department at a nearby university.

Students can use simple word processing software or desktop publishing software to create their own books about an animal of their choice, draw pictures of farms and animals, make a mural of farms, and make clay farm animals. They can ask their parents to look for stories in the newspaper about farms and bring them in for the teacher to read and discuss with the class. They can have a "farm day" where students dress like farm workers and bring in toy farm animals.

For a fun class activity, visit the *SwineOnline* Web site and enter the virtual pig raising competition. To play this game the class must raise a pig from a piglet to a hog in five days. Each player or class (this can be done individually or as a group) receives a number of Pig Dollars to spend caring for their pig. The virtual pig eats, sleeps, walks around, and rolls in the mud, just like a real pig. Each virtual pig has an e-mail account and will let his or her owner(s) know how it feels. Students must make decisions about how much money to spend on feed, treats, toys, checkups, etc. They can monitor the progress of their pigs and see how they compare to those of other virtual pig farmers.

Resources:

SwineOnline. http://www.swineonline.com

Software & Hardware:

Tom Snyder Productions. *TimeLiner.*
Sunburst Communications. *Old MacDonald Had a Farm.*
Theatrix/Sanctuary Woods. *Sitting on the Farm.*
Digital camera, cassette recorder

Curriculum Snapshots

Focus:
Mittens

Grade:
One

Source:
Pam Sweeney
Ferrum Elementary

A modern retelling of a Ukrainian folktale helps Pam Sweeney's students learn how the climate, location, and physical environment affect the way people live.

Children delight in the stories of author/illustrator Jan Brett. Her illustrated book *The Mitten* opens doors to several activities students will enjoy. Students follow along as the teacher reads *The Mitten*. They develop oral language skills by retelling the story, using finger puppets or mask characters found on Brett's Web page. Students then recite a familiar poem, "The Three Little Kittens," which serves to open discussion about a possible class project: creating a Giving Mitten Tree during the holidays. For this project, children anonymously donate new mittens for needy families. The mittens are hung on a "giving tree" in the classroom. All of these activities are videotaped and shared with parents at a later date.

At Brett's Web site students can find a recipe and directions for making Hedgehog cookies, download and print bookmarks, select a coloring page from *The Mitten*, write a story about the character, and learn how to make an armadillo from a milk carton. Another activity that may involve the help of a teacher's aide or parent volunteer is to let students make T-shirts. Transfers of animals from *The Mitten* can be downloaded from the Web site along with the instructions for creating an iron-on transfer for a T-shirt, sweatshirt, book bag, etc.

Invite students to write their own stories. *Start to Read!* contains stories on CD-ROM as well as in book format. This program helps students learn to read and allows them to create their own stories using background scenes, picture stamps, drawing tools, and word stamps. Students can share their stories with other students via e-mail or with students in another class by using videoconferencing equipment.

In science, students relate the topic of mittens to winter weather. They investigate the relationship of seasonal change and make graphs of the winter month's weather to compare with other seasons. Students can visit *The Weather Channel* Web site to get current forecasts across their region and the world. Since *The Mitten* includes several animals, it can serve as a bridge to the study of animal habitats as well as climate-related physical characteristics and needs of both humans and animals.

Resources:

Jan Brett's Home Page. http://www.janbrett.com
The Weather Channel. http://www.weather.com
Book: *The Mitten* by Jan Brett.

Software & Hardware:

School Zone. *Start to Read!*
Digital camera, video camera, videoconferencing equipment

Curriculum Snapshots

Focus:

Preserving our Natural Resources

Grade:

One

Source:

Jennifer Evans
Burnt Chimney Elementary

The element of surprise helps Jennifer Evans introduce young people to the study of natural resources.

Imagine you are a first grader. You step off the bus, make your way through the crowded hallways, and walk into your classroom, eager to begin the day, when you notice something is terribly wrong. There is (dry) trash all over your room! You ask your teacher what is wrong, but she doesn't answer your questions. As you walk around the room and talk with your classmates, you are unaware that your teacher is observing your reactions and those of your classmates as they enter the room and find this mess. Once everyone has arrived, the teacher leads the class in a discussion about what has taken place.

After the discussion, students draw pictures about their experience and share them with others. Introduce students to broader issues such as the environment, recycling, and waste disposal with *Choices, Choices: Kids and the Environment.* This interactive CD-ROM helps students understand social responsibility and encourages them to think through the consequences of their actions and make wise decisions. Students can work together to share ideas on how to preserve natural resources every day. Students follow along as the teacher reads *The Lorax* by Dr. Seuss. Afterwards the teacher leads them in a discussion of the story. Students participate in an online project by visiting the *Earth Dog* Web site. Students follow along as their teacher reads the story of Earth Dog. From this site, students can link to the NASA Web site and see what Earth Dog saw from space.

Students might also visit a local recycling center or landfill. They can take pictures with a digital camera to post on the school Web site, create a presentation or bulletin board, or illustrate their stories. Students can collect dry trash at school and create garbage monsters. They can make Earth awareness posters to place around the school. A forest ranger, conservation officer, or someone from the landfill or recycling industry could be invited to speak to the class.

Students can be responsible for contributing to the school Web site. With the help of their teacher, they can update the first-grade Web page and include an explanation of this project, scanned pictures of trash monsters with stories about them, and links to *The Lorax* and *Earth Dog* Web sites.

Resources:

The Lorax's Save the Trees Game. http://www.randomhouse.com/seussville/games/lorax
The Earth Dog Site. http://www.earthdog.com/HOME.html
Book: *The Lorax* by Dr. Seuss.

Software & Hardware:

Tom Snyder Productions. *Choices, Choices: Kids and the Environment.*
Presentation software, communication tools, Web editor
Digital camera

Curriculum Snapshots

Focus:
Star-Spangled Banner

Grade:
One

Source:
Suzette Bryant
Henry Elementary

Suzette Bryant helps first graders understand patriotic symbols.

In many U.S. schools, students stand each morning, face the flag, and say the Pledge of Allegiance. First graders begin to understand the significance of the flag and other patriotic symbols when they learn about the history and traditions they represent. Introduce young children to the national anthem through the video *Star-Spangled Banner,* based on the book by Peter Spier. Read aloud to students selections from *The Star-Spangled Banner* and tell students about the history of our national anthem, Francis Scott Key, and American symbols of freedom. Other activities include creating a patriotic bulletin board, talking about what makes a good citizen, and describing American symbols of freedom and discussing their importance. At the *Star-Spangled Banner Links* Web site, students can view a handwritten copy of the famous composition by Francis Scott Key.

The Internet provides virtual field trips to Betsy Ross's house and Ellis Island. At the *Betsy Ross Flags* Web site, students can see the historic flags of the United States. While studying Betsy Ross, read *Betsy Ross* by Alexandra Wallner. Technology is again integrated by using *TimeLiner* to design a time line showing students the history of the stars on the flag. Presentation software shows students how the flag looked at different time periods.

A virtual tour of Ellis Island gives students an overview of the meaning behind the symbol of the Statue of Liberty. This tour can be a springboard into math activities. Word problems are created using the number of steps in the Statue of Liberty, the number of stars or stripes on the flag, etc. Graphs are created using *The Graph Club* to chart the students' rank order of favorite symbols.

Students might also enjoy hearing selections such as *The Story of the Statue of Liberty* by Betsy and Guilio Maestro and selections from *America's Top 10 National Monuments* by Tonya Stone. Students then can become authors themselves, using the software *Kids Media Magic* to write and illustrate a booklet titled *Symbols of Our Country.*

Resources:

Virtual Field Trip to Ellis Island.
http://www.capital.net/~alt.a/tour.htm
Betsy Ross Flags. http://www.betsyrossflags.com
Star-Spangled Banner Links.
http://www.azstarnet.com/~rgrogan/flag3.htm
Weston Woods Studios. *The Star-Spangled Banner.* Videocassette.
Books: *Betsy Ross* by Alexandra Wallner. *The Story of the Statue of Liberty* by Betsy and Guilio Maestro, and *America's Top 10 National Monuments* by Tonya Stone.

Software & Hardware:

Tom Snyder Productions. *The Graph Club.*
Tom Snyder Productions. *TimeLiner.*
Humanities Software, Inc. *Kids Media Magic.*

SEIR•TEC at AEL

Curriculum Snapshots

Focus:
Thanksgiving

Grade:
One

Source:
Peggy Brown
Sontag Elementary & Henry Elementary

Peggy Brown has her students use their imaginations in this unit on Thanksgiving.

Imagine you are a six-year-old traveling on a huge boat with your mother and father and only a few possessions. You are going to a new home far away. That was the situation faced by some of the first Europeans to settle in North America.

Students are introduced to this period by the book *Thanksgiving—Why We Celebrate It the Way We Do* by Martin and Kate Hintz. Use presentation software to help present new vocabulary words. Show the video *Cranberry Thanksgiving* and have students dictate, draw, or write a report about cranberries. Have them make a Thanksgiving recipe. Use the Internet to learn more about the clothing of the time. Stuents might pretend they are Pilgrims and create a pictorial journal about their voyage.

Students can videoconference with another class to share what they learn about Thanksgiving. They can trace the route the Pilgrims traveled from England to America. Take students to Macy's famous Thanksgiving Day parade by showing them the video *Brush*, which encourages children to read good books and to use public libraries.

Culminating activity: Conduct a mock feast. Children love to dress up as Pilgrims and American Indians and share fruit, popcorn, and cider. Students will tell what foods the Native Americans brought to the celebration and what foods the Pilgrims brought. They will talk about how the food was prepared. Activities might include making a turkey by tracing their hands and coloring Thanksgiving pictures. At the *Coloring* Web site, students can select a picture of a turkey. This on-line coloring book allows students to click on the color of their choice, then click on the part of the picture they wish to fill with that color.

Resources:

Coloring. http://coloring.com

Geokids Activity Pages – Word searches & puzzles
http://www.geocities.com/~5geokids/thanks/activities.html#coloring

Caleb Johnson's Mayflower Web Pages—Pilgrim Clothing.
http://members.aol.com/calebj/clothing.html

Spoken Arts. *Cranberry Thanksgiving*. Videocassette.

Great Plains National Instructional Television. *Brush*. Videocassette.

Book: *Thanksgiving—Why We Celebrate It the Way We Do* by Martin and Kate Hintz.

Software & Hardware:

Word processing software, desktop publishing software, presentation software

Digital camera

Curriculum Snapshots

Focus:
The Food Pyramid

Grade:
One

Source:
Joanne Gill
Dudley Elementary

Joanne Gill's recipe for teaching first-grade students about good nutrition combines apples and technology.

Introduce students to the food pyramid through Dole's *5-A-Day Adventures* CD-ROM and Web site. Students learn fun songs and play games that persuade them to eat fruits and vegetables every day.

Show students the video *How to Make an Apple Pie and See the World,* which tells the story of how a girl learns geography as she gathers ingredients for her pie. Students will also see how a chef uses science to unravel some of the tricks and reasoning behind everyday cooking. Students can "think, pair, and share" about cooking safely. Have them work with a partner to locate on a world map all of the places the girl in the story visited. As they learn about nutrition and how fruits and vegetables are grown, students keep a journal of words and pictures of their observations. The class makes posters to analyze and compare characteristics of the foods they learn about.

After hearing selections from *Johnny Appleseed* and *The Seasons of Arnold's Apple Tree,* students brainstorm to create an apple vocabulary chart to use as a reference in their stories. Using word processing, students retell the story of Johnny Appleseed, then create their own folktale using words, sentence strips, and pictures. As they study the growing cycle of an apple tree, they can draw pictures of seasonal changes and write captions for their drawings. A field trip to an apple orchard allows students to investigate how, where, and what kinds of apples are grown. They might observe or take part in harvesting apples and making apple cider or apple butter. Students can take pictures with the digital camera for use in their stories and presentations.

For science and math, help students

- follow a recipe to make applesauce
- count the seeds in a quartered apple
- illustrate math problems using drawing software
- use drawing software to illustrate one's favorite way to prepare an apple

Resources:

Dole 5-A-Day Adventures.
http://www.dole5aday.com

The Food Pyramid.
http://www.nal.usda.gov:8001/py/pmap.htm

Great Plains National Instructional Television. *How to Make an Apple Pie and See the World.* Videocassette.

Books: *Johnny Appleseed* by Steven Kellogg and *The Seasons of Arnold's Apple Tree* by Gail Gibbons.

Software & Hardware:

Dole. *5-A-Day Adventures.*
Drawing software, word processing software
Digital camera

Curriculum Snapshots

Focus:
Ancient China

Grade:
Two

Source:
Betty Gruver
Ferrum Elementary

Betty Gruver's second graders can tell you about China's contributions to science, art, philosophy, and technology.

Ancient China made many contributions to science and culture that have made an impact on world history. Books and modern technology such as videotapes, the World Wide Web, reference CDs, and teleconferencing help students explore Ancient China's mysteries.

Students begin their study by brainstorming what they already know about China. They visit the *Daily Life in Ancient Civilizations* Web site where they find information about the history of China. Here they explore life in four different Chinese dynasties. Winnie-the-Pooh guides young students through this Web site to engage the students and make learning fun! Use *My First Amazing History Explorer* for children to travel back in time to past worlds such as ancient China.

National Geographic's *Picture CD Collection on India and China* provides an excellent resource for researching this ancient civilization. Students can learn more about China's achievements in art, technology, and government, and learn more about its contribution to religion and philosophy. Students can get this information and more by visiting the Web.

The class also learns how important time measurement was to the Chinese by studying the Chinese calendar. Activities related to special days in Chinese history can also be integrated into the study. Historical contributions, inventions, and other interesting facets of Chinese culture can be explored. Possible topics include paper making, block printing, shadow play puppetry, the abacus, tea, rice, kites, and panda bears.

Resources:

ABC Maps of China.
http://www.theodora.com/maps/china_map.html
Scenery.
http://www.cnd.org:8007/Scenery/index.html
Daily Life in Ancient Civilizations. http://members.aol.com/Donnclass/indexlife.html
China's Ancient Structures.
http://www.brownschool.org/webmasters/Aliki/China.html
China—General Site. http://www.brainlink.com/~kkin/fables/toc1.htm

Software & Hardware:

DK Multimedia. *My First Amazing History Explorer.*
National Geographic Society. *Picture CD Collection on India and China.*

Curriculum Snapshots

Focus:
Ancient Greece

Grade:
Two

Source:
Steve Quesenberry
Glade Hill Elementary

Ancient Greece is the starting point for Steve Quesenberry's exploration of math, science, art, music, civics, and more.

Teaching second graders about ancient Greece can be challenging because of limited resources on the topic geared to primary students. But the topic is rich in possibilities for teaching language arts, geography, government, art, and more.

Show students the video *Greece: Dimitris and His Bees*. This presentation features the story of a Greek boy and his family. Afterwards, have students discuss the general characteristics unique to Greece. Ask students to locate the island of Corfu, shown in the video, on a map or globe. Have students find out its history.

Have students conduct research on the National Geographic Society *PictureShow CD Collection on Greece and Rome*. Students can research a variety of topics, including geographic features, agriculture, government, gender roles, religion, art, music, and sports. Each member of a cooperative group chooses a topic to research and a cumulative group presentation is designed, using presentation software.

Students might also design a pattern for a piece of pottery done in the red/black designs used in ancient Greece. Black tempera paint over orange crayon can be used, allowing students to etch designs onto their "pottery," or virtual pottery can be designed with templates in drawing software. Students can also learn about the individual appearance of hoplite shields. Using cardboard and paint, students create shields and helmets. Once the shields are finished, students get a lesson on marching in hoplite formation and operating in unison. The Olympics, which originated in ancient Greece, are also discussed. Activities related to the Olympics can be integrated into the physical education curriculum.

In math and science, students use maps and charts in CD-ROM research tools to study the equator and its effect on temperature, climate, and weather. Students can visit *The History of Ancient Greece* Web site to view maps and a time line of Ancient Greece. This information can be a springboard to a discussion on food, clothing, and shelter—all topics a second grader can relate to!

Resources:

The History of Ancient Greece. http://library.advanced.org/10805/greece.html

New Dimension Media. *Greece: Dimitris and His Bees.* Videocassette.

Software & Hardware:

National Geographic Society. *PictureShow CD Collection on Greece and Rome.*

Presentation software, drawing software

Curriculum Snapshots

Focus:
Folktales

Grade:
Two

Source:
Janice Camenisch
Ferrum Elementary

Janice Camenisch finds that the local culture is rich in folklore waiting to be uncovered.

Local and regional folktales offer stories in a familiar setting and may be the best starting point for studying folktales from around the world. When students attend a performance by a storyteller steeped in local lore and tradition, they are more likely to see their own place as interesting and fertile ground for imaginative stories. They will also have a greater appreciation for the stories of other cultures.

Following the performance, class activities center on the creation of a student book, which can be compiled using word processing software. Use the *Amazing Writing Machine* to introduce students to the five ways of expressing their thoughts: story, letter, journal, essay, and poem. This creative writing tool includes page-layout templates, clip art, and painting tools.

Invite students to visit the *Kidworld* Web site, where they can read stories written by other students, submit their stories for prizes, or get a key pal. As students work on creating their stories, have them share their thoughts and ideas with their key pals.

The *Absolutely Whootie Stories to Grow By* Web site allows young students to select a story they would like to illustrate. All fairy tales on Whootie Owl's site are illustrated by kids' art. Directions for submitting artwork are included. Artwork selected for display on the site will include the age and first name of the student. Students may also enter Whootie Owl's Script Writing Contest. Other activities include keeping a list of folktales read in class, naming the components of a folktale, creating graphs of class favorites, and listing similarities between characters from different tales.

Students can visit *The Kids' Storytelling Club* Web site to learn how to use storytelling road signs on a storyboard as they create their own storytelling story. Here they will find ideas for writing a story and see a sample story to get them started.

Culminating activities: Students create a classroom book of folktales and storytelling stories. Give them the opportunity to act out their stories in short skits, which can be videotaped and shared with parents. Let students take pictures of their performances with a digital camera. Pictures can be placed on the Web site and used in student projects.

Resources:

Absolutely Whootie Stories to Grow By.
http://www.storiestogrowby.com
Kidworld. http://www.bconnex.net/~kidworld
The Kids' Storytelling Club.
http://www.storycraft.com

Software & Hardware:

The Learning Company. *Amazing Writing Machine.*
Word processing software
Digital camera, video camera, VCR

Curriculum Snapshots

Focus:
Letter Writing

Grade:
Two

Source:
Melinda Prillaman
Burnt Chimney Elementary

Melinda Prillaman's students reap social and academic rewards through modern letter-writing activities.

Reading and writing become an adventure when students use these skills to explore the world through pen pals.

Introduce the pen pal experience by reading books such as *Pen Pals*, *Don't Forget to Write*, and *Letters for Felix*. Have students go to the *Find a Pen Pal!* Web site where they will select another student their age to write a letter to. Students can participate in *Weekly Reader's* Trucker Buddy postcard activity. As a trucker travels across the United States, he or she sends postcards from various states (a great link to geography objectives). Be sure students write back. A software program called the *Ultimate Writing & Creativity Center* can help students write and illustrate a story.

The Computer Classroom Series: Second Grade is a grade-based interactive learning tool that helps students improve their reading comprehension. This program also helps them with pronunciation, research and investigation, spelling, and more. Students work in 15-minute segments. Their progress is automatically tracked so that a teacher can monitor a student's progress.

While making new friends, students also learn about the United States, the parts of a letter, and how to address an envelope. In math, pen pals can be polled about their favorite pets, foods, sports, etc. Data on "favorites" are collected, then tabled and graphed using *The Graph Club*. Students can also create math story problems from pen pal information. Concepts that can be incorporated into these problems include time, distance, and measurement. Students can calculate the distance their trucker buddy has traveled between postcards.

Other ways to incorporate technology include using word processing software to create and edit letters and integrate pictures. The digital camera and scanner allow students to send pen pals pictures of themselves; videoconferencing software allows them to meet "face to face."

Resources:

Find a Pen Pal! http://www.learningspace.org/global_conn/gcline/findpal.html

Trucker Buddies. http://users.twave.net/infobabe/pic1.htm (don't let the URL scare you…this was checked and is a safe link.)

Trucker Buddies - Call 1-800-My-Buddy

Books: *Pen Pals* by Joan Holub, *Don't Forget to Write* by Martina Selway, *Letters for Felix* by Annette Langer and Constanza Droop.

Software &Hardware:

The Learning Company. *Ultimate Writing & Creativity Center.*

2N Education. *The Computer Classroom Series: Second Grade.*

Tom Snyder Productions. *The Graph Club.*

Word processing software

Digital camera, scanner, videoconference equipment

Curriculum Snapshots

Focus:
Nocturnal Animals

Grade:
Two

Source:
Teresa Sanders
Snow Creek Elementary

Second graders in Teresa Sanders' class don't rely on scary movies for information about bats.

All some people know about bats is that they show up frequently in Halloween cartoons. But bats, like all living things, are part of a system. Bats and the caves they inhabit can provide an interesting focus for a larger study of the weather and seasonal changes that affect plants, animals, and their surroundings.

Show students the video *Stellaluna*, the story of a baby bat who is separated from her mother and father. Stellaluna ends up being raised by a family of birds. Afterwards, lead students in a discussion about Stellaluna and how she could be friends with the birds. Talk about how birds and bats are alike and how they are different. Have students create a concept map to compare the two species. As students study these fascinating creatures, they learn new vocabulary words, write about caves, create a bat-shaped book filled with bat facts, and produce a classroom book of cave poems. Students can take one another's pictures and include their own picture in their book and other projects. Cave and bat pictures can be scanned and included in projects. Invite students to take a virtual tour of a cave by visiting *The Virtual Cave* Web site.

Another good video is *Nighttime Animals*, which examines nocturnal animals through the use of animation and live animals. It teaches students about the importance of nocturnal animals in relation to the environment and food chain. Ask students to create a list of nocturnal animals. Create a class bulletin board that shows examples of nocturnal animals and their activities.

Help students create a cave wall in the classroom using tempera paint or chalk. Simulate a cave in the classroom by darkening the room and making papier maché or construction animals. Let students role-play some of the activities of nocturnal animals.

Resources:

The Virtual Cave.
http://www.goodearth.com/virtcave.html
DK Vision. *Nighttime Animals*. Videocassette.
Great Plains National Instructional Television. *Stellaluna*. Videocassette.

Software & Hardware:

Word processing software
Digital camera, scanner

Curriculum Snapshots

Focus:

What the "Buzz" is all About

Grade:

Two

Source:

Melinda Holley
Glade Hill Elementary

Students in Melinda Holley's class "buzz" with questions as they study the life cycle of the honeybee.

This study helps students understand that behavioral and physical adaptations allow animals to respond to life needs.

First, using the Internet and electronic encyclopedias, students collect information about honeybees. They can visit the *Sue Bee Honey* Web site and the *Honey Bee Facts* Web site to investigate the differences among the queen, drone, and worker bees. Another Web site, *B-Eye*, allows students to see the world through the eyes of a honeybee. Students will be "busy bees" indeed as they design a multimedia presentation on the life cycle of a honeybee or provide content for the school Web site about honeybees and the responsibilities of a beekeeper.

Introduce students to the rituals of the honeybee—the life cycles and tasks of the queen bee and her drones, workers, and nurses—with the *Bee Basics and Spider Survival* videodisc. Have students "think, pair, and share" to prepare a chart that lists the distinguishing features of the queen, drone, and worker bees and the jobs each perform. Show students the video *Bee*. Afterwards have them compare a bee to another insect. Students can work in small groups to design and make a model of a beehive.

If possible, students may visit a local beekeeper and see how bees are cared for. Students can take pictures with the digital camera to include in their stories, presentations, and Web pages. Students can also visit the *Tucson Bee Research* site and use a simulation model to study how honeybee population dynamics depend on the weather.

Resources:

Honey Bee Facts. http://www.honey.com/kids/facts.html

B-Eye–The World Through the Eyes of a Honey Bee. http://cvs.anu.edu.au/andy/beye/beyehome.html

Sue Bee Honey. http://www.honey.com/kids/facts.html

Tucson Bee Research—Honey Bee Population Dynamics Simulation Model. http://gears.tucson.ars.ag.gov/beepop/index.html

Barr Films. *Bee* (Animal Families Series). Videocassette.

Software & Hardware:

Pyramid Media. *Bee Basics and Spider Survival*.
Word processing software, presentation software
Research tools, communication tools
Web editor
Digital camera

Grades 3-5

Curriculum Snapshots

Focus:
Apples

Grade:
Three

Source:
Emma Willis
Dudley Elementary

Emma Willis's thematic approach incorporates a variety of software.

An apple a day keeps the doctor away. The apple of her mother's eye. An apple for the teacher. As American as apple pie. Apples seem to have "wormed" their way into our speech and culture. Students' familiarity with this common fruit makes it the perfect focus for a thematic unit.

Show the video *Apples*. This production tells the story of apples, including their origin, earliest use, present day farming, and contemporary uses. Let students make apple prints on paper or fabric. Have students visit the *Johnny Appleseed* and the *Johnny Appleseed Junior Ecology Club* Web sites to learn more about the life of John McIntosh. Have students prepare a presentation about Johnny Appleseed and his wife Hannah.

As students conduct the following activities, take pictures with the digital camera. The pictures can be used in students' presentations, to create an apple bulletin board, in apple art, and other students' projects.

- Students touch, smell, and taste three varieties of apples, then construct a graph using *The Graph Club*. Record the changes in apples that have been (a) cut open, (b) peeled, and (c) unpeeled.
- Using maps, students identify locations in which apple orchards are a basis of industry. Research apple production in your area.
- Students might delve into the history and legends involving apples. They can explore the importance of apples to early settlers and the use of apples for certain holidays and celebrations. A farm museum visit (real or virtual) might be included.
- Fruit has "modeled" for many famous still-life painters. Encourage students to create their own still-life paintings that include apples.

Culminating activity: Publish selected activities and findings in a presentation to be mounted on the school's Web site and/or shown during an open house.

Resources:

The Johnny Appleseed Homepage.
http://www.msc.cornell.edu/~weeds/SchoolPages/Appleseed/welcome.html
Johnny Appleseed Junior Ecology Club.
http://appleseed.net/
DeBeck Educational Video. *Apples.* Videocassette.

Software & Hardware:

Tom Snyder Productions. *The Graph Club.*
Word processing software, presentation software
Digital camera, scanner

Curriculum Snapshots

Focus:
Fairy Tales and Fables

Grade:
Three

Source:
Charles Wray
Rocky Mount Elementary

Charles Wray finds that fairy tales, legends, tall tales, fables, and myths create a dramatic backdrop for exploring literature, social studies, and science.

Storytelling can bring folktales to life and illustrate what makes each type of tale unique. Visiting Web sites such as *Grimm's Fairy Tales* and *Fables* can reinforce and build on this initial experience.

Fairy tales usually include magical creatures or powers. The Grimm brothers or Hans Christian Anderson collected many fairy tales. Examples include "Cinderella" and "The Little Mermaid." Have students visit the *Grimm's Fairy Tales* Web site where they can read other fairy tales. Fables usually teach a lesson and have animals as their main characters. Popular classic fairy tales, such as "Red Riding Hood" and "Rumpelstiltskin," teach valuable lessons as students watch the videos. Red Riding Hood stresses the importance of not speaking to strangers and reinforces the importance of observing and thinking carefully before acting. Ask students to tell you what they like about each story. Talk about how the book and the video are alike and different. Have students list some of the things Red Riding Hood did that show she was a kind and thoughtful person.

Students read several of Aesop's fables and try to figure out the moral of each. In science, they write comparisons of the traits of real animals and those depicted in fables. Electronic encyclopedias help them investigate animals and research fables.

Have students read stories from *Reader Rabbit's Reading Development Library, Levels 3 and 4.* This interactive storybook includes four classic tales: "The Princess and the Pea," "The Goose That Laid the Golden Egg," "King Midas," and "The Ugly Duckling." Students may choose to have the stories read to them, read independently, or read together with a storyteller.

With *Kid Pix Activity Kit for Fairy Tales,* students can create their own fairy tale or fable for presentation to the class. This package includes paint and slide show modules along with sound clips and pictures that coordinate with the kit's theme.

Resources:

Grimm's Fairy Tales. http://www.cs.cmu.edu/~spok/grimmtmp/

Fables. http://www.pacificnet.net/~johnr/aesop/aesop1.html

Weston Woods Studios. *Red Riding Hood.* Videocassette.

Great Plains National Instructional Television. *Rumpelstiltskin.* Videocassette.

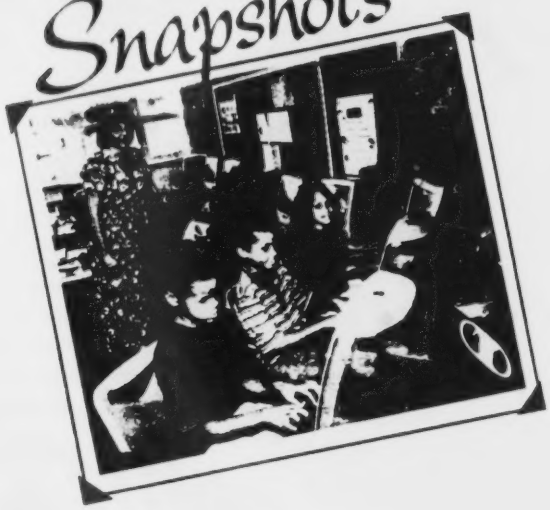
Software & Hardware:

The Learning Company. *Reader Rabbit's Reading Development Library, Levels 3 and 4.*

The Learning Company. *Kid Pix Activity Kit for Fairy Tales.*

Word processing software, electronic encyclopedias

Curriculum Snapshots



Focus:

Myths and Legends of Ancient Greece

Grade:

Three

Source:

Pattie Hunt
Lee M. Waid Elementary

Pattie Hunt uses modern tools to teach about an ancient civilization.

Greek philosopher and teacher Socrates was famous for asking students a lot of questions. Modern-day teachers preparing a unit of study that integrates technology, however, must first ask *themselves* some questions: Do the students need lessons on any of the software? Should I prepare electronic templates for students to use as they prepare brochures and newsletters? Should I bookmark selected Internet sites? Do I need to collect library materials or pictures to use during the unit? By thinking through such issues ahead of time, teachers save class time for studying the topic at hand—in this case, Ancient Greece. Here are a few suggestions for incorporating technology into the study of this ancient civilization:

- Show students the video *Myths and Legends of Ancient Greece*. Lead a discussion about what was common to the three stories. Have students draw the creatures and explain why each is important to the story. Let students write their own story about the creatures they have drawn. Scan their pictures to include in the class book.
- After reading a selection of Aesop's fables, then acting out one of them and discussing its moral, students explore the life of Aesop, a Greek slave. They can read more about his fables on the Internet. Students vote on their favorite fable and create a graph or chart using *The Graph Club*.
- Work in cooperative learning groups to complete an outline of each story shown in the video using the following topics: plot, theme, culture, history, philosophy, and religion.
- As a class, create a book about ancient Greece. Have students work in pairs to research and write a short report, then type the finished report onto predesigned pages. Print and bind the pages into a class book. The *Ancient Greece* Web site helps students learn about the origins of the Mediterranean peoples.
- Use inexpensive materials to make an abacus: Students carefully cut slits in a shoebox lid and insert 10 brads in each column.
- Use *TimeLiner* to create a time line of events in the history of ancient Greece.

Culminating activity: At the completion of the project, have students select from their work and create a newsletter to send to families.

Resources:

Ancient Greece.
http://library.advanced.org/10805/greece.html
AGC United Learning. *Myths and Legends of Ancient Greece.* Videocassette.

Software & Hardware:

Tom Snyder Productions. *TimeLiner.*
Tom Snyder Productions. *The Graph Club.*
Word processing software, presentation software, drawing software
Digital camera, scanner

Curriculum Snapshots

Focus:
Native Americans

Grade:
Three

Source:
Cathy Black
Burnt Chimney Elementary

The past and present lives of America's first people are honored in Cathy Black's classroom.

"H'Atira, H'Atira!" The songs of Native Americans help students to experience the rich cultural heritage of America's first people. But new resources and technologies allow students to glimpse American Indians' present lives as well. Students study music, art, social studies, language arts, science, and technology as they learn about those who first inhabited—and still inhabit—this land.

Introduce students to Native American stories, songs, and chants by using the CD-ROM *500 Nations*. This multimedia program explores the 1,000-year history of 26 Native American tribes or peoples. It explores the impact of European settlers upon Native American culture. Let students listen to a Native American telling ancient and powerful stories on the CD-ROM *Storyteller*. Have students visit the *Eagle Song Flutes* Web site to see pictures of Native American flutes. At the *Rankokus Indian Reservation* Web site, students can see pictures of Native American festivals.

Show the video *Hiawatha* to the class. Discuss the relationship between Hiawatha and his grandmother Nakomis. Have students write about why the environment was so important to Native Americans.

With a flex cam and videoconferencing software, the class can electronically visit a class at another school that is also studying the unit. They could even videoconference with Native American students their own age or the elders of a tribe on an American Indian reservation. If possible, take a field trip to a pow-wow. Take along a digital camera so students can take pictures of Native American dances and rituals (with the presenters' permission). These pictures can be used to create a presentation that might be used to teach others about Native Americans.

Resources:
Eagle Song Flutes. http://www.nativeflutes.com
Rankokus Indian Reservation.
http://www.powhatan.org
Weston Woods Studios. *Hiawatha*. Videocassette.

Software & Hardware:
MultiMeaning Company. *Storyteller*.
Microsoft Corporation. *500 Nations*.
Word processing software, presentation software
Scanner, digital camera, videoconferencing equipment

Curriculum Snapshots

Focus:
Roman Empire

Grade:
Three

Source:
Lisa Bowman
Burnt Chimney Elementary

The computer becomes a time machine in Lisa Bowman's classroom.

The art of teaching history is to tell the stories of the past in such a way as to put students in the position of experiencing, if only vicariously, the activities of that time. Show the video *Ancient Rome*. Explain to students the meaning of "All roads lead to Rome." Guide students through the *Voyage Back in Time, Ancient Greece and Rome* Web site to learn more about the forms of entertainment the ancient Romans enjoyed. Ask students to write about which of these entertainments are still in existence today.

With Internet access, the computer can become a time machine that enables the teacher to lead students around the world. To save time accessing sites and to keep students on task, bookmark the sites ahead of time and show students how to access these sites. They can tour the present-day remains of an ancient Roman villa and look at the daily life and ritual of Roman citizens.

They can find out what a school day was like and what kinds of games Roman children played, and see what the characters of Roman history looked like and how they dressed. A multimedia projector allows the entire class to visit sites together. Students can work in groups to prepare presentations for the class.

Culminating activity: Students prepare skits, plays, or other presentations that demonstrate their knowledge of life in the ancient Roman Empire. These presentations may incorporate images (displayed via multimedia projector or printed) from the Internet sites visited. Pictures can be taken with the digital camera for use in student projects, to create bulletin boards, and for the school Web site.

Resources:

Roman Open Air Museum Hechingen-Stein: A Roman Villa. http://www.dhm.de/museen/stein/stein_e.html

Voyage Back in Time, Ancient Greece and Rome. http://www.richmond.edu/~ed344/98/greecerome/

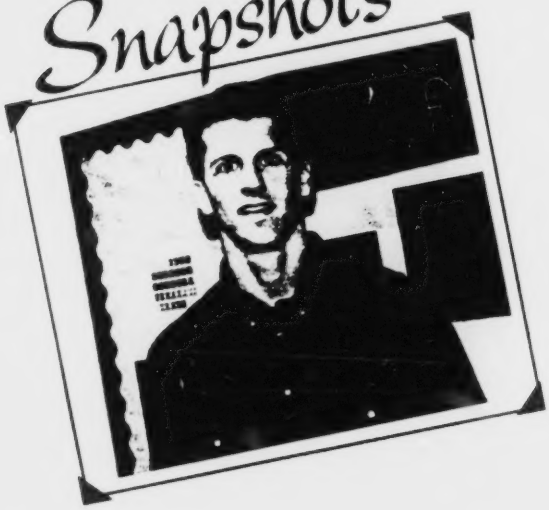
Daily Life in Ancient Rome. http://members.aol.com/Donnclass/Romelife.html

Encyclopedia Britannica Educational Corporation. *Ancient Rome.* Videocassette.

Software & Hardware:

Word processing software, presentation software
Digital camera, scanner, multimedia projector

Curriculum Snapshots



Focus:
Space Exploration

Grade:
Three

Source:
Gregory Johnston
Glade Hill Elementary

Space—the frontier of dreams. Gregory Johnston knows that children can't resist imagining a new life on a distant planet.

Encourage the class to make the journey together. Students begin by writing down everything they already know about space, what they would do if they had a spaceship and could use it, and why they think astronauts are sent into space. Using *Inspiration*, students can create a web diagram that displays their cumulative knowledge, allowing them to learn from one another. Students then visit the NASA Web site to see the most commonly asked questions about space.

The video *Outer Planets* examines the other planets in our solar system. Segments identify the planets, indicate their relative positions within the solar system, and give their respective sizes compared to the sun and Earth. Discuss the outer planets and their location in the solar system. Have students work with a partner to design a mobile of the outer planets. Have them look at the Earth through an astronaut's eyes by visiting the *Earth From Space* Web site.

Let students learn more about the solar system with National Geographic's *STV: Solar System*. This interactive videodisc explores the solar system and highlights each of the planets and the sun. Lead students in a discussion of the solar system and why they think people are interested in it.

Related activities include:

- Research a specific planet and prepare a report to present to the class.
- Track the progress of a current space flight or launch via the Internet.
- Work with a partner and report on the importance of studying space and the universe.
- Pretend you have just landed on a new planet. Develop a set of rights, responsibilities, and rules for all who will live there.
- Research a space scientist and present to the class.

Resources:

NASA. http://www.nasa.gov/

Earth From Space: An Astronaut's Views of the Home Planet. http://earth.jsc.nasa.gov

Stanton Films. *Outer Planets*. Videocassette.

National Geographic Society. *STV: Solar System*. Videodisc.

Software & Hardware:

Inspiration. *Inspiration*.

Word processing software, presentation software

Videodisc player

Curriculum Snapshots

Focus:
Titanic

Grade:
Three

Source:
Sandy Hunt
Glade Hill Elementary

The Titanic sank in 1912 after striking an iceberg, but interest in the event rose with the 1998 release of a motion picture based on the tragedy. Sandy Hunt capitalizes on the current interest to teach language arts, science, and math.

A wealth of books, documentary films, and Web sites provide information about the sinking of the Titanic, which can be studied from many different perspectives.

Begin each day by reading aloud to students excerpts from *Finding the Titanic* and *The Voyage on the Great Titanic: The Diary of Margaret Ann Brady*. Show students the video *Sunken Treasure*. Lead them in a discussion about what made the Titanic sink and why treasure hunters were so interested in finding it. Show the National Geographic film *Secrets of the Titanic*, which helps students understand the technology that enabled Robert Ballard to locate the sunken ship in 1985.

Many people—maybe even some of the students' ancestors—immigrated to the United States in the early 1900s. Ships were the primary mode of transportation. Students write in first person about what it must have felt like to come to a new country. Have a discussion with students about the money of that time, how much money it would take to make such a move, and what the move meant to them. Students also write about the Titanic's demise (or recovery) from the perspective of a newspaper reporter. At the *3D Titanic* and *The Grave of the Titanic* Web sites, students can collect information and pictures for the newspaper. Some might write letters to the Titanic Historical Society.

In science and math, students make miniature icebergs after investigating how they form and determine how many classrooms it would take to equal the length of the Titanic. Students also investigate hypothermia and how it affected the passengers, the cost of a first-class ticket then and now, and safety issues such as the insufficient number of lifeboats aboard the ship. They chart the Titanic's planned course from Belfast, Ireland, to New York, and create a time line of the voyage with *TimeLiner*.

Resources:

3D Titanic. http://titanicring.hypermart.net
The Grave of the Titanic.
http://octopus.gma.org/space/titanic.html
Great Plains National Instructional Television. *Sunken Treasure*. Videocassette
National Geographic. *Secrets of the Titanic*. Videocassette.
Books: *Finding the Titanic* by Robert Ballard, *The Voyage on the Great Titanic: The Diary of Margaret Ann Brady* by Ellen Emerson White

Software & Hardware:

Tom Snyder Productions. *TimeLiner*.
Word processing software, presentation software

35

Curriculum Snapshots

Focus:

Animals and Their Habitats

Grade:

Four

Source:

Sandra Curd
Dudley Elementary

Sandra Curd's students teach one another about animals they research.

If you walked into this classroom, you would find some students conducting research via the Internet and electronic encyclopedias. Others are scanning pictures and drawings of animals. If you ask, the students will tell you they are working on presentations, storybooks, reports, or the class Web page. Other students are e-mailing questions to zoologists or Discovery's Animal Planet Emergency Vets, or visiting the Discovery Web site.

At the *Electronic Zoo* Web site students see and learn about hundreds of animals. Take students on an interactive expedition in which they explore eight different biomes with more than 1,100 creatures. *Animal Planet* by Discovery Channel School allows students to examine in detail the creatures in each ecosystem, add to field notes, and discover how to report information. Have the class work together to create a Web page using information collected during their investigations. Ask each student to investigate an animal and prepare a presentation about the animal's habitat, adaptations, body covering, food, and behavior. They draw pictures of their animals and scan them into their presentations.

Working in cooperative groups, students choose one of the eight biomes from *Animal Planet*. They conduct research and report their findings to the rest of the class using presentation software. The presentation should include the type of vertebrates or invertebrates that live in the habitat and how the animals adapt to that environment. Students include specific information about skin, scales, feathers, fur, feet, wings, mouth parts, teeth, camouflage, etc.

Other activities that students might do include viewing X-ray images of animal hands and identifying which animal they belong to. Using *NIH Image* (Macintosh) *or Scion Image* (Windows 95) and *Discovering Image Processing-Animal Hands*, students can view X-rays of many animals including a baboon, lion, sea lion, owl, and others. They can create a table to record their observations and the function they think each hand serves (swimming, supporting weight, manipulating objects, etc.). Note: Students should be able to recognize the animals in this activity before beginning the activities.

Resources:

The Electronic Zoo.
http://netvet.wustl.edu/e-zoo.htm
Discovery's Animal Planet. http://animal.discovery.com/http://animal.discovery.com/

Software & Hardware:

Discovery Channel School. *Animal Planet.*
The Center for Image Processing in Education. *Discovering Image Processing-Animal Hands.*
NIH Image. *NIH Image* (Macintosh).
Scion Corporation. *Scion Image* (Windows).
Word Processing software, presentation software, electronic encyclopedias
Digital camera, scanner

Curriculum Snapshots

Focus:
Weather

Grade:
Four

Source:
Jennifer Talley
Ferrum Elementary

While there may be storms in Jennifer Talley's classroom, no one needs an umbrella.

Predicting the weather is difficult. The young meteorologists (in training) in this fourth-grade class try predicting the weather as they learn about weather factors, storms, and meteorological tools.

Students begin this unit by graphing daily temperatures in their area. They track local weather conditions and compare them to *The Weather Channel* Web site. Using *The Graph Club* at the end of each month, they determine the percentages of sunny, cloudy, rainy, and snowy days and create a pie chart to show the results. Next, introduce students to the *GLOBE Program* and have them report their data via the Internet. Scientists use GLOBE data and communicate their findings to students. Each day, images created from the GLOBE student data sets are posted on the Web.

Have students use the computer-interactive videodisc *Geology and Meteorology* to investigate severe storms. Another program, *NIH Image* (Macintosh) or *Scion Image* (Windows 95) and *Discovering Image Processing-Hurricane Andrew*, allows students to view infrared weather satellite images of Hurricane Andrew. These images can be stacked and animated to show the movement of Andrew in the Gulf of Mexico. Lead students in a discussion about what causes hurricanes and tornadoes. Have them talk about how people should protect themselves during severe storms. Have them work in groups to research and report on the skills, training, and interests required to become a meteorologist.

Students can work in cooperative groups to make a cloud in a bottle and a hurricane, as well as a barometer and rain gauge. Take students to *Science Court* to study the water cycle. Here students work together in a courtroom trial simulation; interact with one another in cooperative groups; make predictions at each stage of the trial; examine clues, predictions, conclusions, and trial methods; and discuss aspects of the water cycle.

Resources:

GLOBE Program. http://www.globe.gov
The Weather Channel. http://www.weather.com/homepage.html
WeatherEye. http://weathereye.kgan.com/
Wind Tunnel Web Page. http://www.lerc.nasa.gov/Other_Groups/K-12/windtunnel.html

Software & Hardware:

Tom Snyder Productions. *The Graph Club.*
Tom Snyder Productions. *Science Court: Water Cycle*
McGraw Hill School Division. *Geology and Meteorology.*
Center for Image Processing in Education. *Discovering Image Processing-Hurricane Andrew.*
NIH Image. *NIH Image* (Macintosh).
Scion Corporation. *Scion Image* (Windows).
Word processing software, presentation software, spreadsheet software
Digital camera, scanner

Curriculum Snapshots

Focus:

Exploring the Solar System

Grade:

Four

Source:

Julie Hall
Rocky Mount Elementary

Julie Hall's students probe cyberspace to find answers to questions about outer space.

Is there life on other planets? What developments in science helped people learn about space? What were some former beliefs about the sun, moon, and earth? Who are some of the scientists who added to our knowledge about the solar system? What have we learned about our space neighbors through the space programs?

The video *Exploring Our Solar System* describes a journey from the center of the solar system to its outer limits. Lead students in a discussion about the planets and why life may or may not exist on them. Have students work in small groups to create a model of the solar system.

To help students answer some of these questions, refer them to the *Eyewitness Encyclopedia of Space and the Universe*. This CD-ROM allows students to study scientists, planets, and constellations of the night sky as they learn about the birth and structure of the universe. Have students work in their collaborative groups to discuss the differences between stars and planets. Have them create a presentation to share with the class.

Students work with their hands and their minds as they study how the sun, moon, and Earth interrelate. *Field Trip to the Sky* lets students explore the mystery of the solar system through simulated field trips in space, interactive sun and moon labs, NASA video, and animation. Students can create a bulletin board showing current space projects. Let them work in groups to create a presentation about what causes the seasons on Earth.

In social studies, students learn about the contributions of scientists who added to our knowledge about these heavenly bodies. They carry the theme into art class by building models or illustrating diagrams that exhibit the relative size, position, and makeup of the Earth, moon, and stars.

Resources:

National Geographic Society. *Exploring Our Solar System*. Videocassette.

Software & Hardware:

DK Interactive Learning. *Eyewitness Encyclopedia of Space and the Universe*.
Sunburst Communications. *Field Trip to the Sky*.
Word processing software, presentation software, electronic encyclopedias

Curriculum Snapshots

Focus:
Pictures of the Civil War

Grade:
Four

Source:
Charlotte Jordan
Callaway Elementary

Charlotte Jordan uses a literature-based approach to teach students about the war that divided North and South.

Bring together print and electronic resources to give students a more complete picture of the social and political realities of life before, during, and after the conflict. Students can visit the *Manassas National Battlefield Park* Web site and *Meet Addy, An American Girl, 1864* Web site to learn more about this historic event.

The Civil War was the first military conflict recorded extensively by photography. Matthew B. Brady is perhaps the best known Civil War photographer. He employed many well-known photographers before and during the war. The *Pictures of the Civil War* Web site contains the database of photos housed at the National Archives and Records Administration. Students can see pictures of Army life, civilians, generals, bridges, prisoners, battle areas, the U.S. Capitol (the photo of the U.S. Capitol under construction is a must see!), cavalry soldiers, Confederate officers, Union officers, and more. There are even pictures of the photographers and their equipment.

Select a picture that each student can find on the Web site and print out. Ask them to write a story about their pictures. Lead students in a discussion about the possible conclusions they can draw about the people, location, or event in the picture.

Using the *American Girls Premiere* software, students can create and perform their own multimedia plays from five different time periods of American history. Students can choose from a variety of scenes, historical props, historical costumes, and musical selections. Stars and co-stars are included as well. Students can record their own voices or use the text-to-speech feature of the computer. Have students work in their cooperative groups to create a presentation.

Students can also use the CD-ROM *Civil War* for their research. This program provides topics hyperlinked to an electronic encyclopedia. It allows students to export text and pictures to their own multimedia projects and helps them discover and learn how to use search techniques.

Resources:

Meet Addy, An American Girl, 1864. http://www.americangirl.com/collection/addy/index.html

Manassas National Battlefield Park. http://www.nps.gov/mana/home.htm#table

Pictures of the Civil War. http://gopher.nara.gov:70/0h/inform/dc/audvis/still/civwar.html

Software & Hardware:

The Learning Company. *American Girls Premiere.*
Primary Source Media. *Civil War.*
Word processing software, presentation software

Curriculum Snapshots

Focus:
Revolutionary Era

Grade:
Four

Source:
Chris Anderson
Glade Hill Elementary

Chris Anderson introduces students to the extraordinary collection of intellect and leadership that guided our young nation through the trials of a revolution.

Students sample U.S. history as they study the backgrounds, motivations, and contributions of such early heroes as George Washington, George Wythe, Thomas Jefferson, James Madison, James Monroe, and Patrick Henry. The Internet makes it possible to pay a virtual visit to the homes and time periods of these Americans.

Show students the video *Johnny Tremain*, a fictional story of the Revolutionary War period. This tells of a young silversmith apprentice in Boston who is drawn into close association with the Sons of Liberty. Have students compose an essay on the word processor that compares the American account and the English account of the Battle of Lexington. Discuss with students the importance of historical fiction in understanding historical events.

Transform the class into a remote colony whose eastern province is in rebellion, using *Decisions, Decisions: Revolutionary Wars*. Students must act as problem solvers and examine the process of executive decision making. Have students create campaign flyers and newsletters explaining their decisions and outcomes. Students work in cooperative groups to create a time line of the historical events. *TimeLiner* allows students to import graphics and pictures into their projects, view data in a variety of formats, and add titles to any time line.

Introduce students to different perspectives by showing the video *Remaking Society in the New Nation*. Lead a discussion about the safeguards that were put in place after the war to guarantee that freedoms won would not be lost. Discuss the differing points of view Americans held on slavery.

Resources:

Mount Vernon (home of Washington). http://www.mountvernon.org/

Monticello (home of Jefferson). http://www.monticello.org/index.html

Montpelier (home of Madison). http://www.montpelier.org/home.htm

Ash Lawn Highland (home of Monroe). http://monticello.avenue.gen.va.us/Tourism/AshLawn/home.html

George Wythe House. http://www.history.org/places/hb/hbwythe.htm

Native Tech. http://www.history.org/people/african/aaintro.htm

Disney Educational Productions. *Johnny Tremain*. Videocassette.

Encyclopedia Britannica Educational Corporation. *Remaking Society in the New Nation*. Videocassette.

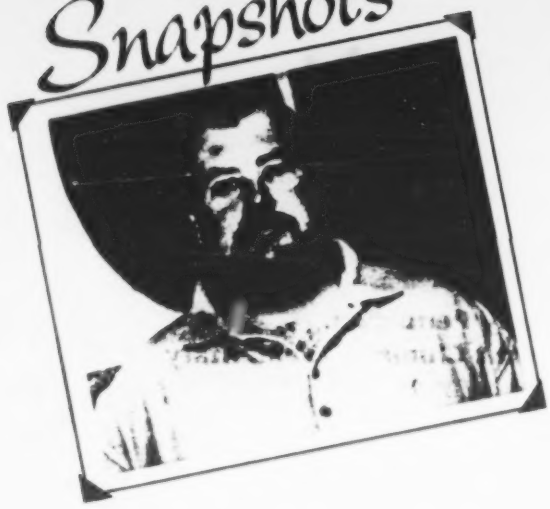
Software & Hardware

Tom Snyder Productions. *Decisions, Decisions: Revolutionary Wars*.

Tom Snyder Productions. *TimeLiner*.

Word processing software

Curriculum Snapshots



Focus:
Virginia Colony

Grade:
Four

Source:
Mike Butler
Burnt Chimney Elementary

Mike Butler's students explore the economic, social, and political roots of the American Revolution.

The United States of America declared itself an independent nation in 1776, 169 years after England established its first permanent colony in America (Jamestown, Virginia). A wealth of electronic resources help students understand events that led to the creation of a new nation.

Show students the video *Colonial America: Life in the Maturing Colonies*. This presentation focuses on three settlements, highlighting unique economic, ethnic, and religious themes. Sequences compare and contrast life in Massachusetts, Pennsylvania, and Virginia. Lead students in a discussion about how the settlements differed and how they were alike.

Have students access electronic resources such as the *Jamestown* Web site and National Geographic's *Story of America Part I*. This CD-ROM collection provides information on these topics: Native Americans, colonial America, the American Revolution, and the westward expansion. Here are some suggested activities:

- Using *TimeLiner*, students construct time lines of the events leading up to the American Revolution.
- Students write electronic journal entries as though they were soldiers during the Revolutionary era. They are also given a list of rations that they must divide among themselves for an entire week (concentrate on working with fractions; use metric measurement, if desired).
- Create a model, mural, or drawing of life in the New England, middle, or southern colonies in the 1700s. Students can use *Diorama Designer* to create this project.
- If possible, visit a local historical site connected to the Revolutionary period. Use a 35mm or digital camera to make a scrapbook of the visit. Scrapbooks can be computerized using *HyperStudio* software.

Culminating activity: Have a colonial day. Capture it on video and in photographs. Edit video footage with *Avid Cinema* to create a short documentary on Colonial America. Have students narrate the production.

Resources:

Jamestown.
http://www.williamsburg.com/james/james.html
Encyclopedia Britannica Educational Corporation. *Colonial America: Life in the Maturing Colonies*. Videocassette.

Software & Hardware:

Tom Snyder Productions. *TimeLiner*.
Avid Technology, Inc. *Avid Cinema*.
Tom Snyder Productions. *Diorama Designer*.
National Geographic Society. *Story of America Part I*.
HyperStudio. *HyperStudio*.
Word processing software, presentation software
35 mm camera, digital camera, scanner

Curriculum Snapshots

Focus:
Animal Kingdom

Grade:
Five

Source:
Betty Pendleton
Burnt Chimney Elementary

Lions, tigers, and bears are alive and well in Betty Pendleton's fifth-grade class.

To help her students study the animal kingdom and learn about vertebrates and invertebrates, Betty transforms her classroom into a virtual jungle. Animal posters are displayed around the room; publications such as *National Geographic* and *Zoobooks* are set up as a reading center. Students bring in pictures of animals that are vertebrates and invertebrates for display on the class bulletin board.

Using the provided reading materials, Web sites, and electronic encyclopedias, students research specific animals. They use word processing software to write creative stories, based on facts, about animals. This information is then put into a presentation that students will share with the class.

A field trip to a local zoo or science museum is a great activity for this unit. Students can take pictures with a digital camera and use a portable computer to take notes. Each student might write 10 observations about the animals' eating habits, interaction with others, etc. The pictures can be used in student presentations and for creating a collage for display on the school bulletin boards.

If a field trip is not possible, bring the zoo to the classroom with *GeoSafari Animals* by National Geographic. This CD-ROM program presents 15 exciting activities for students, such as finding animals by following their tracks or identifying animal sounds. Students apply the information they have learned to solving puzzles, taking quizzes, and identifying maps.

Use the Classroom Connect *AfricaQuest* computer-interactive videodisc to connect students with a team of explorers to investigate ecosystems and cultures around the world. Activities are four weeks in duration. Students can engage in e-mail with Quest explorers.

For math activities, put animal crackers, gummy bears, fish crackers, etc., in a jar and have students estimate the number in the jar. Afterwards let the students eat the goodies. Create a bar graph on the computer with headings such as vertebrates, invertebrates, mollusks, insects, and worms. Have the students list as many examples of each as they can.

Resources:

Sea World/Busch Gardens Animal Information Database. http://www.seaworld.org
Frogs and Other Amphibians. http://fovea.retina.net/~gecko/herps/frogs/
The New England Aquarium. http://www.neaq.org/
The Florida Aquarium. http://www.sptimes.com/aquarium

Software & Hardware:

Classroom Connect. *AfricaQuest.*
National Geographic. *GeoSafari Animals.*
Word processing software, presentation software, electronic encyclopedias
Digital camera, portable computers

SEIR•TEC at AEL

Curriculum Snapshots

Focus:

Native Americans of the Seventeenth Century

Grade:

Five

Source:

Barbara Stout
Dudley Elementary

Barbara Stout's students view geography, nutrition, and storytelling through the eyes of American Indians.

Something about holding an arrowhead or pottery piece in your hands makes it easier to picture the real lives of seventeenth-century Native Americans. Invite students to bring any artifacts they may have as a starting point for exploring the customs and ways of life of various tribes.

Show the video *Native Americans: People of the Plains.* Explain the history of the horse and lead students in a discussion about how the people hunted the buffalo before they had horses. Have students work in cooperative groups to create a presentation on how Native Americans utilized the Great Plains natural resources.

Have students visit the *Native American Indian Resources* Web site, the *Native Tech* Web site, and the *Native American Lore* Web site to gather information for a research paper on Native Americans. Let students work in groups and select a tribe they would like to study. Research should include modes of travel, styles of clothing, tribal social structure, religious beliefs and practices, games and sports, language, and economic structure. This presentation might include a demonstration of arts, crafts, games, or skills used by the tribe. (For example, students might make and demonstrate musical instruments such as rattles, drums, pipes, and ankle bells.)

Introduce students to American Indian legends and folklore with the video *Magic Box* (Legends of the Indians Series). Ask students to compare this story with folktales they are familiar with. Have students write their own American Indian story.

Other activities students might include

- Creating graphs with *The Graph Club*, showing the population of tribal groups at different times in history
- Using *TimeLiner* to create time lines showing major events in a tribe's history
- Creating maps with *Mapmaker's Toolkit* that show the geography of tribal lands
- Creating charts illustrating the diet of a tribe and its relationship to geography
- Drawing diagrams that illustrate the process of home construction
- Making posters that illustrate storytelling traditions and lore

Resources:

Native American Indian Resources. http://indy4.fdl.cc.mn.us/~isk/mainmenu.html
Native Tech. http://www.nativeweb.org/NativeTech/
Native American Lore. http://www.ilhawaii.net/~stony/loreindx.html
Rainbow Educational Media. *Native Americans: People of the Plains.* Videocassette.
Films for the Humanities & Science, Inc. *Magic Box* (Legends of the Indians Series). Videocassette.

Software & Hardware:

Tom Snyder Productions. *The Graph Club.*
Tom Snyder Productions. *TimeLiner.*
Tom Snyder Productions. *Mapmaker's Toolkit.*
Word processing software, presentation software, electronic encyclopedias

Curriculum Snapshots

Focus:
Explorers

Grade:
Five

Source:
Annette Bowman
Rocky Mount Elementary

Annette Bowman uses the latest software to explore the past.

Christopher Columbus, Ferdinand Magellan, Hernando de Soto, and Ponce de Leon are just a few of the early European explorers that students will study as they trace the routes of the major explorers. Students describe the impact these explorations had on the Native Americans who lived in these newly discovered lands. Students can create a time line of the explorers' travels with *TimeLiner.* They can compare and contrast the different explorations and determine how long each expedition took.

Show students the video *Latitude and Longitude.* This presentation examines the development and use of latitude, longitude, and navigational systems. It illustrates how to determine location on a map or globe. Lead students in a discussion of the importance of the latitude and longitude grid system. Ask students to identify the equator, prime meridian, Tropics of Cancer and Capricorn, and the international date line on a globe or map.

Students can search the Internet and electronic encyclopedias as they travel back in time to the days of these early explorations. Direct them to the *Early American Explorers* Web site and the *Rare Map Collection* Web site to gather information for their projects.

Challenge students' knowledge and decision-making skills with *Discover the World II: Age of Exploration.* This simulation provides a variety of quests and challenges that circle the globe, involving obstacles that confronted explorers in the fifteenth and sixteenth centuries. Users encounter pirates, weather, and scurvy, as well as new animals, plants, and languages, on different continents.

Students work in cooperative groups to research and report on early explorers and navigators. Include the navigational tools and methods used by the explorers.

Resources:

Early American Explorers. http://www.empire.k12.ca.us/Stroud/projects/early_american_explorers.htm

The Globe Program. http://www.globe.gov/

Rare Map Collection. http://scarlett.libs.uga.edu/darchive/hargrett/maps/nine.html

National Geographic Society. *Latitude and Longitude.* Videocassette.

Software & Hardware:

Tom Snyder Productions. *TimeLiner.*

ENTREX Software, Inc. *Discover the World II: Age of Exploration.*

Word processing software, presentation software

Digital camera, video camera

Curriculum Snapshots

Focus:
Reading Portfolios

Grade:
Five

Source:
Brenda Willis
Burnt Chimney Elementary

Technological and language literacy are important goals for Brenda Willis's class.

When students choose how to demonstrate reading comprehension, students and teachers may uncover hidden talents and interests. As part of their reading contract, students may select any one of the activities listed below to respond to a reading selection. Completed assignments may be kept in a portfolio.

SkillsBank 4 is designed to be a comprehensive resource for diagnosing and remediating students' basic skills. Students can take pre-tests and then have the program place them in skills modules to reinforce weak areas. The program will save work so students can continue lessons later.

Spotlight on Literacy is another tool to help students with reading comprehension. The *Multimedia Literature* edition provides reading selections for grades 3-5 and includes a writing tool.

Here are some activities that can be used to check for comprehension of the reading material:

- Create a graph that illustrates the answers to five questions that might be asked about the reading selection. Prepare an overhead transparency to present to the class.
- Research one or more topics related to the time period of the reading selection: transportation, inventions, clothing, famous people, or another. Share findings in a *PowerPoint* presentation or make a Venn diagram showing comparisons between then and now.
- Create a 3-D model representing something related to the reading using *Diorama Designer*. Use a digital camera and scanner to make an image of the model for the student's portfolio.
- Create an advertising brochure or one-page mini newspaper using Microsoft *Publisher*.
- Use *Crossdown*, a crossword puzzle program, to create a crossword puzzle that includes at least 20 words from the reading. Give clues in the form of synonyms or antonyms, selected by using the word processor's thesaurus.
- Do an author search on the Internet, then compose a friendly letter or e-mail to the author.
- Work with another student to re-create a five-minute scene from the reading selection, emphasizing character traits. This presentation will be videotaped, with a copy of the script placed in the students' portfolios.

Resources:

Crosssdown.
http://www.netacc.net/~crossdown/

Software & Hardware:

McGraw-Hill School Division. *Spotlight on Literacy, Multimedia Literature.*
Skillsbank Corporation. *SkillsBank 4.*
Tom Snyder Productions. *Diorama Designer.*
Microsoft. *Publisher; PowerPoint.*
Word processing software
Digital camera, scanner

.45

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Curriculum Snapshots

Focus:
Westward Expansion

Grade:
Five

Source:
Betty Huffman
Sontag Elementary

Betty Huffman's class tries videos and CD-ROMS in place of covered wagons.

The pioneer spirit that inspired people to venture westward in the 1800s and early 1900s can inspire students to venture into the realm of technology to share their learnings with classmates and others.

Have students search the Internet for stories about the men, women, and children who crossed the country in covered wagons, on horseback, on foot, and later by stagecoach or train to tame the "wild, wild West."

Show students the video *Oregon Trail* and have them keep a journal or diary describing the struggles of daily life along the Oregon Trail. Let students use *Inspiration* to create a concept map of tools and supplies that need to be taken on a trip west in a covered wagon. Have students compare and contrast the travel conditions of the first travelers on the Oregon Trail with those who travel the same route today.

An excellent companion to the *Oregon Trail* video is the *Oregon Trail II* CD-ROM. This program simulates a trip in a covered wagon. Students select their levels of difficulty, the month and year of travel, and starting and ending points. Along the way, they encounter hazards as did the first travelers of the Oregon Trail.

The video *Lewis and Clark* investigates this important expedition. It provides an opportunity to contrast the roles of American Indians during the exploration period with those of the settlement period. Have students mark the route Lewis and Clark took on a present-day map and describe the major geographical problems they had to solve. Let them create a time line of the expedition using *TimeLiner* software. Research and write a historical account of the American Indians who helped Lewis and Clark.

Resources:

Oregon Trail Pagent Music. http://www.teleport.com/~norrisa/music.htm

The Oregon Trail. http://www.oregontrail.org/

Oregon Trail Group. http://www.oregontrailgroup.com/map1.htm

The Learning Company. *Oregon Trail* (The Old West Series). Videocassette.

Agency for Instructional Technology. *Lewis and Clark* (Landmarks of Westward Expansion Series). Videocassette.

Software & Hardware:

Inspiration. *Inspiration*

The Learning Company. *Oregon Trail II.*

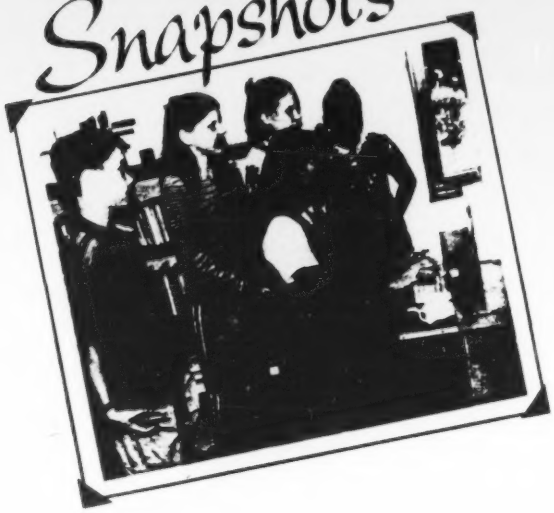
Tom Snyder Productions. *TimeLiner.*

Presentation software, word processing software, spreadsheet software, electronic encyclopedias

A-6

Grades 6-8

Curriculum Snapshots



Focus:

Characteristics of Electricity

Grade:

Six

Source:

Beverly Woody
Benjamin Franklin Middle

Beverly Woody puts a little "spark" into the study of electricity.

Electricity is such a part of our lives that we often forget how powerful and dangerous it can be. Students begin their study of this "common miracle" by going to the *It's a Wired World* Web site, where they take a pre-test to determine how much they know about electricity. They then view the video *Electricity: A Powerful Force* by American Electric Power (AEP). Students can visit AEP's Web site to learn about the *Solar Schools Project*. Encourage them to make a graph that shows how much electricity the sun makes and how the school uses it, then e-mail a question about solar energy and find out how their school can join this project.

Introduce students to *Science Court's Electric Current* CD-ROM. Students will meet I. M. Richman and try to solve a problem he is having with his alarm system. Have students work in cooperative groups to analyze and discuss scientific concepts, perform hands-on experiments, and come to a conclusion that will solve the problem. This program uses animation, hands-on activities, and humor to teach students fundamental science concepts.

Students will realize how much they've learned as they work together to create a Web site that communicates their understandings to others. Exercise students' math and geometry skills by inviting them to visit the *Geometry* Web site, which deals with saving on energy costs and how to figure the Btu (British thermal unit) content of fuel. They can create charts or spreadsheets on the cost efficiency of different fuels. They use a digital camera to take photos of power lines, which can be used to create a photo montage. The photos can be used to illustrate parallel, perpendicular, and intersecting lines.

Culminating activity: Working in cooperative groups, students write short scripts about dealing with electricity. Using ideas from the *It's a Wired World* Web site, students can use such titles as *Don't Get Grounded, More Shocks Happen*, and *What Would You Do?* Each script should address issues related to electricity such as how to deal with electrical shock or electrocution and what to do if a power line falls across your car and is on fire. Sample scripts are available on the Web site. Videotape skits and edit them with *Avid Cinema* to create public service announcements to share with other schools and the public.

Resources:

Geometry. http://tqd.advanced.org/2647/geometry/geometry.htm

It's a Wired World–Experiments in Electrical Safety. http://www.culverco.com/interactive/index.html

American Electric Power. http://www.aep.com/education/index.cfm

American Electric Power. *Electricity: A Powerful Force.* Videocassette.geometry.htm

Software & Hardware:

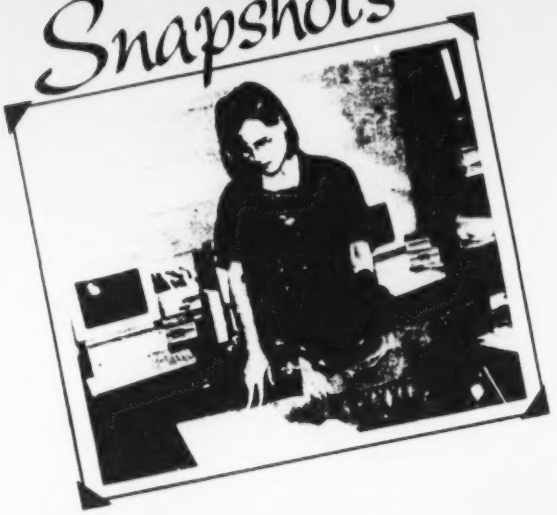
Tom Snyder Productions. *Science Court's Electric Current.*

Video conferencing equipment

Word processing software, presentation software

Digital camera, scanner

Curriculum Snapshots



Focus:
Integers

Grade:
Six

Source:
Ronda Vanover
Benjamin Franklin Middle

Ronda Vanover raises sixth graders' awareness of how numbers affect their lives.

An integer is defined as any natural number that is not a fraction, negatives of these numbers, and zero. Once you memorize this definition, what more can be said about integers? Plenty! Integers are used to represent real situations (in football, for example, the number 6 represents how many points a team receives for crossing the goal line). An understanding of integers builds a base for understanding fractions.

Introduce students to *Math Blaster Mystery—The Great Brain Robbery*. This program uses four activities that enable students to develop pre-algebra skills by applying deductive and inductive reasoning to solve a mystery in a haunted house. Included are three levels of activities with various forms of numbers, number relationships, concepts, patterns, and functions. There are more than 100 word problems.

The *Integer War Game* Web site offers activities that reinforce a student's understanding and sense of integers. One of these activities is a card game played like War. Interactive and visual activities help students see patterns and relationships that exist among numbers. The *Accentuate the Negative—Learn About Integers* and the *MusiNum* Web sites offer a variety of math activities.

Students will realize the use of numbers is not confined to mathematics class; science activities incorporate atomic structure, temperature, and location of coordinates on a map by using positive and negative numbers. *TimeLiner* software can be used to graph events that occurred at any time in history. For a language arts tie-in, students can create word problems to solve; these problems can be designed around the previously mentioned science and social studies activities. Integers are also an "integral" part of music and sports. Help students discover how to use integers to write music and keep score in golf.

Resources:

Accentuate the Negative—Learn about Integers. http://www.math.msu.edu/cmp/AccNeg.html

Integer War Game. http://explorer.scrtec.org/explorer/explorer-db/html/817016225-81ED7D4C.html

MusiNum. http://www.forwiss.uni-erlangen.de/~kinderma/musinum/musinum.html

Software & Hardware:

Knowledge Adventure. *Math Blaster Mystery—The Great Brain Robbery.*

Tom Snyder Productions. *TimeLiner.*

Word processing software

Curriculum Snapshots

Focus:
Travel Around the World

Grade:
Six

Source:
Bryan Forbes
Benjamin Franklin Middle

Bryan Forbes encourages a little daydreaming in class.

It's fun to imagine visits to exotic destinations. Students put together their own fantasy vacation packages and learn about planning, budgeting, and making travel arrangements. They also learn about geography, customs, and different monetary and measurement systems.

Students plan two trips, one domestic and one overseas. Each student creates a family adventure utilizing maps, landmarks, routes, and pictures. Cash is not limited (after all, this is a fantasy trip), but costs must be specified. For the domestic trip, students plan routes to their destinations and determine the total distance to be traveled, which they report in both metric and English units. Each student selects a car from a list of possibilities, searches the Internet for the car's estimated gas mileage, and computes fuel costs. How many days will it take to get to the vacation spot? Where should they stay at night? Students use the Internet to check room rates for hotels along their routes. They use a spreadsheet to create a table or chart to show their budgets for food, gas, lodging, and entertainment. They do the same for the overseas trip and also decide whether to fly or sail and what class of travel they will use. Figuring the cost of food, entertainment, and accommodations in U.S. dollars may be a little tricky.

To help with planning the overseas trip, introduce students to *Where in the World is Carmen Sandiego?* This program combines real information with humorous fancy in a nongender-specific, noncompetitive format that involves and challenges students of many ability levels. The program encourages problem-solving and critical-thinking skills.

Students can research these trips using the CD-ROM *Adventure.com U.S.A.* This interactive multimedia program examines America's culture and heritage through slides, video, sound, and text. It provides a framework for students to create adventures using their own pictures and graphics, as well as those provided in the program. Students can discuss the importance of cultural and ethnic diversity supported by references and other information they have gleaned. *Adventure.com U.S.A.* reinforces research and historical interpretation and presentation skills.

Culminating activity: Find at least six destinations throughout the United States that are each 59 miles apart. Calculate how long it would take to reach each, and explain why the times vary even though the distances are the same.

Software & Hardware:

Broderbund Software. *Where in the World is Carmen Sandiego?*
Ingenuity Works. (VR Didatech). *Adventure.com U.S.A.*
Presentation software
Word processing software
Spreadsheet software

Curriculum Snapshots

Focus:

Welcome to Middle School

Grade:

Six

Source:

LaVerne Tiggle
Benjamin Franklin Middle

LaVerne Tiggle uses technology to help new middle school students overcome the jitters.

The transition from elementary to middle school can be traumatic for students. Fifth graders leave the elementary school as "top dogs" only to enter the middle school as "new kids on the block." Use PowerPoint to help introduce these students to their new environment—and model the effective use of technology at the same time!

A PowerPoint presentation can help illustrate procedures for contacting a guidance counselor, receiving admission slips, getting homework assignments when absent due to illness, and so forth. Relevant forms or instructions can be scanned and displayed during the presentation. School and district policies regarding violence, drugs, and alcohol can be explained. With the help of a digital camera, photos of administrators, counselors, support staff, and teachers can be included.

The presenter can also talk about how the presentation itself was put together and what uses of technology students can expect to see in the middle school. Turn this into a warm-up activity by having students stand and say "That's me" whenever the presenter names a technology-related skill they have (inserting a disk into a disk drive, creating a PowerPoint presentation, or using a CD-ROM, etc.).

Classroom teachers help prepare students for middle school by showing the video *Mediation Skills*. This program defines peer mediation and shows how to resolve conflicts. Afterwards, have students role play how to handle conflict situations. Discuss the importance of resolving disputes peacefully. Ask students to write an essay on how they plan to deal with conflict.

New sixth graders can videoconference with fifth graders about what to expect in middle school. An additional idea that works well is to assign each sixth grader an older "buddy" (a seasoned middle school student) who shows them around the school, escorts them to class the first couple days, introduces them to others, and answers their questions.

Resources:

Sunburst Communications. *Mediation Skills*. Videocassette.

Software & Hardware:

Word processing software, presentation software
Videoconferencing equipment
Digital camera
Scanner

Curriculum Snapshots

Focus:

What Made the Twenties Roar?

Grade:

Six

Source:

Carol Jones
Benjamin Franklin Middle

The Internet helps Carol Jones put a turbulent decade into historical perspective.

Sandwiched between World War I and the Great Depression was a decade of great social change in the United States. Popular new technologies (including automobiles, airplanes, and radios) altered the way people thought about time and distance. As students use present-day technologies to "travel back in time," ask them whether they notice any parallels between the 1920s and the present.

Introduce students to the era by showing the video *Roaring Twenties.* Then divide the class into four groups. Each group is to prepare a presentation that describes the ideas and events of the 1920s with an emphasis on music, dance, entertainment, prohibition, clothing, or sports. Research tools might include the Internet, electronic encyclopedias, and *SIRS Discover Deluxe.* Set up stations for various activities—computer, printer, scanner, digital camera, and multimedia projector. Provide group lessons and individual instruction to familiarize students with the equipment and software.

Have students work in groups to study how the Great Depression affected the area where they live. They can organize their findings to present to the class. Have them plan a journal depicting a move from a small town to a big city and explain why a family would move.

Talk about the Industrial Revolution. Discuss how labor-saving machines for the home influenced the lives of American families. Ask students to create a presentation of these machines, including pictures. Have students compare them to the labor-saving machines of today and determine if they really do save labor and time.

Culminating activity: Each group presents a thematic multimedia presentation that describes the ideas and events of the 1920s. Presentations might include the following components:

- a discussion about assembly line methods and the cost of producing cars, then and now
- a presentation about people who lived during the 1920s who were interviewed by the students (take photos of people interviewed with a digital camera or 35 mm camera and scan them into the presentation)
- an authentic 1920s costume, created and modeled by the group

Resources:

Roaring Twenties Fashion. http://www2.idsonline.com/jeff/fashion.html
Timeline of the Twenties. http://www2.idsonline.com/jeff/timelineframe.html
Schlessinger Media. *Roaring Twenties.* Videocassette.
National Geographic Society. *1929-1941: The Great Depression.* Videocassette.

Software & Hardware:

SIRS Mandarin. *Sirs Discoverer Deluxe.*
Word processing software
Presentation software, electronic encyclopedias
Digital camera, scanner, multimedia projector

Curriculum Snapshots

Focus:

Serving Students with Special Needs

Grade:

Six

Source:

Mae Roy Ramsey
Benjamin Franklin Middle

Mae Roy Ramsey offers strategies all teachers can use with students who have special needs.

Children with learning disabilities can be found in virtually every classroom. Getting the right kind of help can have a big impact on them, both now and in the future. *Write:OutLoud* is a talking word processor with a talking spell checker. *Co:Writer* is a writing assistant program with intelligent word prediction. It helps struggling students build and write complete and correct sentences. *Access to Math* is designed to accommodate any student's learning style quickly and easily. Worksheets can be completed on-screen or off the computer.

An important step is to have a reading portfolio that includes a diagnostic program to identify the learning disability (learning profile). A cognitive profile can precisely determine student needs, strengths, and weaknesses. *Words Around Me* is a program that can be used as both a diagnostic tool for language acquisition and as a vocabulary reinforcement for ESL and special education students.

In math, students can use *MathPad*. It provides visually, auditory, and physically challenged learners the means of solving math problems through the use of technology. Students can learn about interesting and useful shapes with *Discovering Image Processing-Polygon Patterns* and *NIH Image (Macintosh)* or *Scion Image (Windows 95)*. This image processing software allows students to view the special properties of polygons. Students can measure angles and create graphs and tables. Activities in this program may need to be adapted to the abilities of the individual students.

Students can use AlphaSmart portable keyboards for note- and test-taking. The AlphaSmart is easy to use and is compatible with Macintosh and PC's. Simply turn it on, do some writing, then turn it off. For students with poor penmanship or those who have difficulty using a pencil or pen, the AlphaSmart enables a student to concentrate on the writing, not the writing tool.

The Web sites listed here provide other resources for teachers who work with special-needs students.

Resources:

Center for Applied Special Technology.
http://www.cast.org
Don Johnston Incorporated.
http://www.donjohnston.com/

Software & Hardware:

Don Johnston Incorporated. *Write:OutLoud; Co:Writer; Access to Math.*
Center for Image Processing in Education. *Discovering Image Processing-Polygon Patterns.*
NIH Image. *NIH Image* (Macintosh).
Scion Corporation. *Scion Image* (Windows).
Edmark Corporation. *Words Around Me.*
Intellitools. *MathPad.*

Curriculum Snapshots

Focus:
Civil Rights Movement

Grade:
Seven

Source:
Nancy Chewning
Benjamin Franklin Middle

Nancy Chewning focuses on the Civil Rights movement to help young people understand the complex, unfolding story of human relationships.

As students visit various Web sites related to the Civil Rights movement, *TimeLiner* helps them put their findings in chronological order. They might also consult dictionaries and encyclopedias to help them label and understand terms and events they encounter during their search.

This historical context gives greater meaning to the class's reading of *The Watsons Go to Birmingham—1963*. In this Newbery Honor Book, a family of five travels from Flint, Michigan, to Birmingham, Alabama, to visit a relative. Their visit coincides with the 1963 bombing of an Alabama church, which killed four young African American girls. The documentary film *4 Little Girls* tells more about the bombing, which awakened the nation to the malignancy of racism. Reading relevant pages from *Free at Last: A History of the Civil Rights Movement and Those Who Died in the Struggle* helps students further understand the historical significance of this event.

Engage students in related and meaningful activities with Tom Snyder's *Decisions, Decisions: Prejudice*. This program allows students to learn and talk about prejudice, discrimination, and the Civil Rights movement in a nonthreatening environment. Discussing these issues helps students learn to make positive differences in their own communities. Have students identify the ethnic groups represented in the class. Put students in groups to collaborate on a one-page promotion for each ethnic group.

Culminating activity: Students make a presentation about the Civil Rights movement. Using presentation software, they can create a dynamic presentation that incorporates text, photos, film clips, audio clips, and other media they find on the Internet or create themselves.

Resources:

Teachers Guides. http://www.randomhouse.com/teachersbdd/wats.html

4 Little Girls. http://www.4littlegirls.com/4littlegirls2.html.

4 Little Girls. Directed by Spike Lee. Home Box Office. Videocassette.

Christopher Paul Curtis. *The Watsons Go to Birmingham—1963*. Newbery Honor Book, 1996, No. 2.

Sara Bullard. *Free at Last: A History of the Civil Rights Movement and Those Who Died in the Struggle*. 1993. Oxford University Press.

Software & Hardware:

Tom Snyder Productions. *TimeLiner*.

Tom Snyder Productions. *Decisions, Decisions: Prejudice*.

Word processing software

Presentation software

Electronic encyclopedias

Curriculum Snapshots

Focus:

Classification of Living Things

Grade:

Seven

Source:

Dot Collins
Benjamin Franklin Middle

Dot Collins has some fun ideas to help her students investigate and understand classification of living things.

There has been a recent increase in scientific knowledge about how diverse organisms work together to sustain life as we know it on Earth. Scientists arrived at this picture of the world by first breaking it down into its components. Guide students through activities that (1) help them understand the process of classifying living organisms and (2) show them how this information can be useful.

Begin by showing students the video *Classification: Bringing Order to Diversity*, which explains the ways scientists organize and categorize the great diversity of living things. Segments include a survey of the five kingdoms, how scientists bring order to diversity, how structural differences are used to classify species, how various kingdoms differ in function and organization at the cellular level, and the unique characteristics of living organisms.

National Geographic's *Classifying Plants and Animals* CD-ROM is an excellent resource for introducing students to a variety of life-forms and how they are categorized. The lively presentations engage students in the classification process in an easy-to-understand format. Have students list and describe each of the five major kingdoms and include a few examples of each. Assign students to cooperative groups and have them create an evolutionary time line from amphibians through mammals. *TimeLiner* is an excellent tool for this project.

Another interesting CD-ROM is the *Logical Journey of the Zoombinis*. Zoombinis are animated creatures with different hair styles, nose colors, eyes, and feet. As the Zoombinis migrate to a new home, students help them make the journey safely and get practice with critical thinking skills. The program is based on a puzzle format that is highly interactive, engaging, and challenging.

Allow each student to select an animal and prepare a report on its habitat, behavior, and classification. Students should cite three resources (Internet, electronic encyclopedia, book, video, CD-ROM, etc.) in their reports.

Resources:

United Learning. *Classification: Bringing Order to Diversity.* Videocassette.
National Biological Information Infrastructure. http://www.nbii.gov/index.html
Natural Perspective by Ari Kornfield. http://www.perspective.com/nature/index.htm

Software & Hardware:

Broderbund Software, Inc. *Logical Journey of the Zoombinis.*
National Geographic Society. *Classifying Plants and Animals.*
Tom Snyder Productions. *TimeLiner.*
Digital camera, scanner

Curriculum Snapshots

Focus:
Endangered Environments

Grade:
Seven

Source:
Sheila McAlexander
Benjamin Franklin Middle

Through the World Wide Web, Sheila McAlexander's students learn about the biological web that sustains life.

"It's a webbed world." Make this statement to your class and ask them to write down what they think it means. Some might think you are referring to the World Wide Web. Others might think of the interconnectedness of life. Either way, they are right.

Begin the study by showing segments from *Earth's Endangered Environments.* These videos are designed to help students discover basic science concepts through multimedia presentations. Two videos on the rain forests and wetlands provide detailed information about their ecosystems and the problems confronting them. Lead students in a discussion about the importance of the rain forest. Have students research and report on an animal that lives in the rain forest. Have students work in cooperative groups to identify and discuss the reasons why the rain forests are endangered, and prepare a presentation for the class.

Bring the rain forest into your classroom with Tom Snyder's *Rainforest Researchers.* This award-winning program allows students to become teams of scientists faced with real scientific challenges based on current research in tropical forests. This interactive program can be used with one computer or in a computer lab setting. Have students work in cooperative teams, with each member playing a specific role. Students watch video, read their handbooks, and use on-screen instructions to guide them through the forest and help them make decisions.

Culminating activity: Have students log on to National Geographic's *CongoTrek* Web site. Students can follow Mike Fay as he makes his yearlong walk through the tropical forests of central Africa. They can see Mike and read his reports from the field. This site includes classroom ideas for all grade levels with links to related sites that reinforce these activities. One suggested activity is for students to write and illustrate "guidebooks" for visitors to Africa.

Resources:

National Geographic Society. *CongoTrek.*
http://www.nationalgeographic.com/congotrek/
Discovery Channel Online.
http://www.discovery.com

Software & Hardware:

National Geographic Society. *Earth's Endangered Environments.*
Tom Snyder Productions. *Rainforest Researchers.*
Word processing software
Presentation software

Curriculum Snapshots

Focus:
World Geography

Grade:
Seven

Source:
Cathie McGinnis
Benjamin Franklin Middle

Cathie McGinnis's class travels without moving.

In Frank Herbert's science fiction classic *Dune*, this feat is accomplished by folding space. In classrooms, however, students can "travel" to distant countries with the help of electronic and print resources. Each student studies a country of his or her choice, then shares findings with classmates.

Begin by showing students *Basics of Geography II*. This two-part video examines aspects of geography from water and land forms to climate and natural resources. After viewing, have students use *Crossdown*, a crossword puzzle program, to design a crossword puzzle or word scramble on an aspect of the video that interests them. Pair students up to designate locations using longitude and latitude only, and challenge another pair to identify their "mystery" location. Students can search the Internet and gather information about a country they would like to learn more about or research and report on a devastating earthquake or volcano.

Show the video *Continents Adrift*, then have students work in cooperative groups to draw a world map. It should show the locations of plate boundaries, volcanoes, mountains, and recent earthquakes.

Engage student interest through *Geography Search*. In this simulation of early celestial navigation, students set sail on a quest to the New World to find an uncharted island and return with gold. As sailors, they must monitor and make decisions based on weather, wind speed, direction, water depth, food, and latitude and longitude. Success depends upon group members contributing expertise according to their role. This simulation encourages teamwork, problem solving, analyzing, and planning.

Other activities that tie into this unit include:

- Calculate the distance from the school to the capital of the selected country.
- Use *TimeLiner* to construct a bar or line graph illustrating the country's population growth over the past 10 years.
- Use current exchange rates to convert American money into foreign currency using an on-line currency calculator.
- Compare the standards of living in the United States and in the foreign country. Use information such as per capita income, gross domestic product, and life expectancy. Create tables, charts, or graphs to communicate this information.
- Study the country's food production, environmental issues, and population problems.
- Investigate current health issues; compare them with major health issues in the United States.

Culminating activity: Each student presents a multimedia presentation about the country he or she studied and turns in a written document.

Resources:

Regional Geography. http://twist.lib.uiowa.edu/humgeog/resources/regions.html
Currency Calculator. http://www.thegrandcanyon.com/ccc.htm
Crossdown. http://www.netacc.net/~crossdown
United Learning. *Basics of Geography II*. Videocassette.
Rainbow Educational Media. *Continents Adrift*. Videocassette.

Software & Hardware

Tom Snyder Productions. *Geography Search*.
Tom Snyder Productions. *TimeLiner*.

Curriculum Snapshots

Focus:

Local, State, and National Policy Making

Grade:

Seven

Source:

Eric Darby
Benjamin Franklin Middle

Seventh graders in Eric Darby's class announce their candidacy for Most Informed Citizens in a Democracy.

Rules, laws, procedures—students tend to be inherently curious about who gets to make, challenge, change, and enforce them. Build on this interest to help students understand basic lawmaking processes, the functions of regulatory bodies, the role of political parties, and how individuals or special interest groups can influence (or be influenced by) this process.

After a brief introduction to the roles and functions of legislative branches, students use the Internet to identify their state's governor, lieutenant governor, representatives, and senators. What skills do these people need in order to do their jobs? To answer this question, have students watch *The November Warriors*, a documentary that will help them understand the roles of political parties and persuasive tactics. Students can assimilate this knowledge by using spreadsheet software to design tables and graphs that project the probable position of state leaders on issues ranging from welfare to education.

Here are some possible activities:

- As a class, watch a 15-minute clip from the movie *Mr. Smith Goes to Washington*, showing students the introduction of a bill and a filibuster.
- Watch the president's State of the Union address while simultaneously completing a questionnaire. Using the information gathered in the questionnaire, students respond to the address by sending an e-mail message to the president.
- Take the students on a virtual field trip to the U.S. Senate and House chambers. (A multimedia projector allows all students in the class to view the site at the same time.)

Decisions, Decisions: Building a Nation puts students in control of a new nation that emerges from colonial rule. This simulation provides a decision-related approach, enabling students to organize a social and political system for a newly independent nation. Students role-play the leadership of this new country and make decisions about government and economic policy, then cope with the results of their choices.

Resources:

National Association of State Information Systems. http://www.nasire.org

The White House. http://www.whitehouse.gov/WH/kids/html/mail_pres.html

Virtual Field Trip of Senate and House Chambers. http://www.house.gov/house/Visitor.html

The History Channel. *The November Warriors.* Videocassette.

Columbia Pictures, 1939. *Mr. Smith Goes to Washington.* Directed by Frank Capra.

Software & Hardware:

Tom Snyder Productions. *Decisions, Decisions: Building a Nation.*

Multimedia projector

Curriculum Snapshots

Focus:
Poetry

Grade:
Seven

Source:
Traci Hurt
Benjamin Franklin Middle

Traci Hurt's students often discover they are addicted to poetry—and don't even know it!

Can you spend an hour listening to your favorite music radio station without encountering poetry? If your students answer "yes" to this question, they can benefit from these activities, which help them connect poetry and their own experiences. Some activities may be completed individually, but allow students to work in cooperative learning groups whenever possible.

Introducing students to *Writing Tutor* is a good way to help them succeed at any writing assignment. This software includes a typing tutor and grammar book. It can be used to help students with essays, book reports, term papers, creative prose, and more.

Invite students to visit the *Listen & Write* Web site to learn how rap music is like poetry and to try their hand at creating their own rap. They can read the works of other students and write their own poems to be posted on this site. At the *Poetry Pals* Web site, students can participate in an on-line project. This K-12 student project encourages literacy, technology skills, and global awareness. Students can learn about the different types of poetry, and can work individually and as a class to create poems to submit.

Other activities that students can do are as follows:

- Read children's books. Pay close attention to poetic devices, especially sound devices.
- Build group poems. Each student in the class (or each student in a subgroup) writes an opening line, then other students add lines (also called round-robin poetry, this is easily accomplished using a word processor).
- Write a poem based on your own life.
- Learn more about the works of poets who have read their poems at presidential inaugurations.
- Find out what is meant by the phrase "protest poetry." Look for examples among the songs of the 1960s. Find poems that were intended to bring about social change.
- Illustrate a poem.

Caution: Because popular song lyrics sometimes contain language or themes that some students might find objectionable, it is wise to talk ahead of time about what is and is not acceptable in a school setting. This discussion can open up an opportunity for studying censorship and freedom of speech issues, rules of etiquette and propriety among various cultures and settings, and the evolution of personal and group values.

Resources:

Listen & Write. http://www.bbc.co.uk/education/listenandwrite/home.htm

Poetry Pals: The K-12 Student Poetry Publishing Project. http://www.geocities.com/EnchantedForest/5165/

Software & Hardware:

Simon & Schuster Interactive. *Writing Tutor.*
Electronic encyclopedia, word processing software
Videoconferencing equipment

Curriculum Snapshots

Focus:
Peer Mediation

Grade:
Eight

Source:
Darryl Helems
Benjamin Franklin Middle

Students boost their "response ability" in Darryl Helems' class.

Imagine that you've just been told that your so-called best friend was the one who swiped your jeans from the dressing room this morning, forcing you to wear your ugly gym shorts to class for the rest of the day. What would you do? Do you have a choice about how to react to this situation?

Conflict resolution curricula teach young people that they do have choices and that skilled communication, sometimes involving a third-party mediator, can help people resolve problems. Help students learn peer mediation skills by showing them the video *Peer Mediation in Action.* Afterwards, debrief and discuss the mediation process shown in the video. Discuss how peer mediation skills can be used in the personal lives of students. Allow them to research peer mediation and conflict resolution on the Internet. Ask them to participate in a variety of activities:

- Read newspapers and news magazines to find stories that contain conflict. How are these conflicts similar to those you have observed or experienced firsthand? Do the stories offer any insights about resolving conflict?
- In a journal, reflect on observations and outcomes of conflict.
- Get together with others in your assigned group and role-play how to conduct effective peer mediation. These skits could be videotaped for use in conflict resolution lessons or used to create public service announcements about conflict resolution for a local public access channel.
- Use desktop publishing software to create flyers or posters that advertise or promote peer mediation in schools.
- Brainstorm a list of potential conflicts that might require peer mediation. Write an essay that discusses how peer mediation could help solve these conflicts and what the outcome might be if there were no peer mediation.

Resources:

Sierra Vista Peer Mediation Program. http://www.smartlink.net/~jcurwen/curr.med.html

Preparing Teachers for Conflict Resolution in the Schools. http://www.ericsp.org/newsl.html

Student Mediator Training. http://www.smartlink.net/~jcurwen/stutrain.html

United Learning. *Peer Mediation in Action.* Videocassette.

Software & Hardware:

Word processing software
Desktop publishing software
Video camera

Curriculum Snapshots

Focus:

Circulatory and Respiratory Systems

Grade:

Eight

Source:

Carol Cuddy
Center for Applied Technology and Career Exploration

Exercise is important to strengthening the heart and skeletal muscles, but, as Carol Cuddy's students will tell you, not all exercises are equal.

The video *Fitness and Conditioning: Benefits for a Lifetime* examines the importance of fitness to physical and mental well-being. After watching the video, lead students in a discussion of physical fitness and how it benefits the body. Discuss the definitions of fitness given in the program; list the benefits of fitness in one column and some conditions that develop from the lack of fitness in another column. Pair students up to chart their skill-related fitness and health-related fitness. Have them identify areas that need adjusting and work with their partners to modify their activities.

Show students the National Geographic video *Circulatory and Respiratory Systems*. Have each work with a partner to learn to take a pulse. Have them keep track of their pulses for a period of time (one or two weeks), taking recordings at least three times a day and specifying what physical activities they were doing at the time. Students can research and prepare a report on a particular disease of the circulatory system. Students can use *Inspiration* software to create webs of related findings as they conduct their research.

To help students better understand the cardiovascular system, use *Biology Explorer: Cardiovascular System*. This interactive simulation shows the heart and the circulatory systems both as organs and in cross sections. This program is ideal for helping students understand blood flow through the heart and body. Students can change the activity level of a person to show the effect of exercise on the heart and circulation.

Culminating activity: Students individually create a personal exercise program that specifies what exercises should be done, including frequency and number of repetitions. The program should define which exercises strengthen the heart muscle, describe how and when to measure heart rate, and include safety measures. Students use presentation software to create and present their program to the class, using clip art, design features, and transitions appropriate to the topic and audience.

Resources:

Human Relations Media. *Fitness and Conditioning: Benefits for a Lifetime*. Videocassette.

National Geographic Society. *Circulatory and Respiratory Systems* (Human Body Series). Videocassette.

Software & Hardware:

LOGAL Software. *Biology Explorer: Cardiovascular System.*

Inspiration. *Inspiration.*

Presentation software

Word processing software

Curriculum Snapshots

Focus:
Designs in Glass

Grade:
Eight

Source:
M. L. Jackowski
Benjamin Franklin Middle

Stained glass is one window through which M. L. Jackowski's students take an interdisciplinary view.

Just about everyone admires the beauty of stained glass, as demonstrated by the popularity of suncatchers—small pieces of stained glass art often hung in windows. Creating stained glass allows students to apply math, social studies, science, and language arts knowledge as they learn about the art form.

Acquaint students with the history and science of this art by showing the video *Stained Glass.* This program explores the development of the art of stained glass from its conception in the Middle Ages to today. Have students visit the *Glass Place* Web site. Lead students in a discussion on the purposes of the art of stained glass windows in Medieval Times versus its uses today. Have students design a pattern using a drawing program, then make a window with materials that simulate stained glass. Have students design a window to inspire today's generation.

Once students are familiar with the procedure, they are ready to begin creating their works of art. They will see how measuring angles and using geometric shapes affects their work. Geology and chemistry are incorporated as students apply their knowledge of the properties of sand and stones to the creation of glass and experiment with the chemical processes necessary to create the glass and add color.

Invite a stained glass artist to speak to the class, allowing students to ask questions about their own projects and perhaps show some of their work. Students might also use e-mail and videoconferencing to communicate with stained glass artists during this stage, especially if they run into problems or questions not covered in their research. Students should use digital cameras to take photos of their artwork.

Culminating activity: Using the photos of their artwork, students use desktop publishing software to create advertisements to sell their work. These advertisements may take the form of a Web site, posters, flyers, or whatever format they believe would best attract potential customers.

Resources:
Lucerne Media. *Stained Glass.* Videocassette.
Glass Place. http://www.rbcrafts.org/members/glass/mehaffey/

Software & Hardware:
Word processing software, drawing software
Presentation software
Electronic encyclopedias
Videoconferencing equipment
Desktop publishing software

Curriculum Snapshots

Focus:
Health and Wellness

Grade:
Eight

Source:
Paulette A. Thatcher
Center for Applied Technology and Career Exploration

The food choices we make each day affect our health—just ask Paulette Thatcher's class.

A doughnut for breakfast, pizza and root beer for lunch, and a hamburger and milkshake for dinner. Sometimes we're so busy we hardly have time to eat—much less think about what we are eating. Help young people make wise choices by introducing them to the U.S. Department of Agriculture (USDA) food pyramid, examining the link between food and fitness, and scrutinizing caloric requirements.

Show *Teen Wellness: The Whole Picture* and ask students to describe why this is especially important for teens. Have each work with a partner to create a list of nutritious snacks that appeal to people their age. As they visit Internet sites to learn more about nutrition and fitness, have students prepare brochures, presentations, radio or television public service announcements, or other products showing that eating affects people's health. Encourage students to develop a theme or central message, support their statements with facts and figures, and make their presentations visually appealing.

An interactive on-line food pyramid makes it easy and fun for students to learn nutritional concepts. As they individually compare their diets to the USDA suggestions, they will probably find they should be eating less of some foods and more of others. They will also discover that foods with the same number of calories do not necessarily provide the same kind of nutrition. Students can develop a personal food pyramid that includes foods they like. Ask them to list strategies for improving their diets.

Students can use an on-line calorie calculator to estimate how many calories a typical person of their age and size burns while participating in any of 158 different activities. How many calories are in their favorite fast food meals? The on-line *Fast Food Finder* provides quick answers to this question. Ask students to keep a log of the fast food they eat in one week. Have them record the calories, fat, sodium, protein, and fiber content. Let them create presentations that compare the various fast food items and suggest healthy alternatives.

Resources:

Activity Calorie Calculator. http://primusweb.com/fitnesspartner/jumpsite/calculat.htm

U.S. Department of Agriculture. http://www.usda.gov

The Food Guide Pyramid—A Guide to Daily Food Choices. http://www.nal.usda.gov:8001/py/pmap.htm

Fast Food Finder. http://www.olen.com/food/

Sunburst Communications. *Teen Wellness: The Whole Picture.* Videocassette.

Software & Hardware:

Word processing software
Presentation software

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Curriculum Snapshots

Focus:
Media Messages

Grade:
Eight

Source:
Donna Keck
Center for Applied Technology and Career Exploration

Donna Keck's students engage in research, writing, critical thinking, design, and technology use as they study health issues.

What might advertisements look like if marketers were required to "tell the truth, the whole truth, and nothing but the truth" in their ads? By revising popular alcohol and tobacco advertisements to conform to this standard, students not only learn more about the dangers of using these products, they also become more aware of the techniques used to promote them.

Show students the documentary video *Glitter* (Sex, Drugs, and the Media Series), which examines the role and influence of the media and the values and messages in advertising. Review and discuss the ways the media influence a consumer's decision to buy certain products. Lead students in a discussion about how they are influenced by what they see on TV and read in magazines. Talk about why they wear clothes that show designer labels or logos. Have the class design a bulletin board of print advertisements, observing the myths they promote. For good examples, see the *BADvertising* Web site.

Use the CD-ROM *Becoming a Wise Consumer* to teach students how to maximize purchasing dollars. Work through this program to help them learn what it means to be a smart consumer. Have them work in pairs to determine the cost of a generic brand versus designer label of a particular item of clothing such as blue jeans or tennis shoes. Ask them to report to the class which brand they would purchase and why. Students should be prepared to justify their reasons.

Have students work in small groups to redesign popular alcohol and tobacco print advertisements. They analyze the persuasive techniques used in each and re-create the ads using image editing software such as *PhotoShop*, presenting the truth about the product being advertised.

Culminating activity: After developing the "full truth" ads, students develop a multimedia campaign and use presentation software to show their marketing plan for getting their new ad to the public as quickly as possible.

Resources:

Bergwall Productions. *Becoming a Wise Consumer.* Videocassette.

Human Relations Media. *Glitter* (Sex, Drugs, and the Media Series). Videocassette.

The BADvertising Institute. http://www.badvertising.org/

Dare Plus Media Quiz. http://www.ci.dover.nh.us/police/dareplushw2.htm

Software & Hardware:

Adobe. *Photoshop.*
Word processing software
Presentation software
Image editing software
Scanner

Grades 9-12

Curriculum Snapshots

Focus:
Award Winning Children's Literature

Grade:
Nine

Source:
Serena Jamison
Franklin County High

In Serena Jamison's class, children's literature is taken seriously.

Along with local libraries, the Internet is a great resource for researching Newbery Medal and Caldecott Medal award-winning books to identify common characteristics of distinguished literature. Have students begin by learning about the elements of literature—character, plot, setting, tone, point of view, and theme—so they can see how good writers use each of these elements to create a memorable work.

As students learn about popular authors of children's literature, show the video *Beatrix Potter: Artist, Storyteller and Country Woman.* Lead students in a discussion of Potter's interest in nature and how this is communicated in her work. Show the videos *Canterville Ghost* and *Walking on Air.* Have students talk about what makes these stories appeal to children. Have students select a children's author and prepare a report to share with the rest of the class. An excellent tool for student writing projects is *Kid Pix Studio* (for grades K-12). This program allows students to create stories or productions with animation, video clips, background photographs, sound effects, and music.

Invite a local storyteller to demonstrate storytelling to the class. Allow students to read on-line storybooks and to chat on-line with writers of children's books.

Culminating activity: Using the knowledge gained during previous activities, students write and produce their own children's book. This activity addresses several important skills and subjects:

1. Plan and organize writing (English).
2. Use on-line information to locate graphics and pictures appropriate for story theme (technology).
3. Use a word processing program (technology).
4. Communicate clearly the purpose of the writing (English).
5. Write complete and varied sentences (English).
6. Conduct on-line research to become knowledgeable about the book's topic (various subjects).
7. Edit the document for correct use of language, spelling, punctuation, and capitalization (English).
8. Videotape students reading their book to a group of children (technology).

Resources:

Newbery Medal.
http://www.ala.org/alsc/newbery.html
Caldecott Medal.
http://www.ala.org/alsc/caldecott.html
Public Media. *Canterville Ghost.* Videocassette.
Public Media. *Walking On Air.* Videocassette.
Weston Woods Studios. *Beatrix Potter: Artist, Storyteller and Country Woman.* Videocassette.

Software & Hardware:

Broderbund Software, Inc. *Kid Pix Studio.*
Word processing software, presentation software
Video camera

Curriculum Snapshots

Focus:
Elements of Literature

Grade:
Nine

Source:
Elaine Hawkins
Center for Applied Technology and Career Exploration

Elaine Hawkins' students use modern tools to study literature and create their own.

How do character, plot, setting, tone, point of view, and theme work together? What character traits must a main character display? What does the reader learn about the main character by observing how other characters react to him, her, or it? How do authors bring characters to life by describing their appearance, speech, actions, thoughts, and feelings?

Author interviews offer many insights into these questions. Students can search the CD-ROM *Contemporary Authors on CD* for interviews with authors of their favorite books, then compare their findings. Assign readings to the class. The main events of each story are outlined, recorded on strips of paper, passed out to the class, and collaboratively arranged so the events are in sequence.

The Print Shop PressWriter is an excellent program for student writing activities. It provides students with the tools needed to practice essential organization, writing, and publishing skills.

Using this program,have students complete these activities:

- Create a character of your own and place the character in a variety of settings.
- Rewrite a story from another character's point of view.
- Rewrite an event using three types of narration (first person; third person, limited viewpoint; and third person, omniscient).

Using presentation software, students select their best work, or a composite of it, and use it to illustrate some relationship(s) among the various elements of literature. Students can use a digital camera and scanner to capture images that illustrate and enliven their presentations.

Resources:

English/Language Arts Department. http://www.ecnet.net/users/gdlevin/engdept.html
Ask ERIC. http://ericir.syr.edu/Virtual/Lessons/Lang_arts/Writing_comp/WCP0030.html

Software & Hardware:

The Learning Company. *The Print Shop PressWriter.*
Gale Group. *Contemporary Authors on CD.*
Word processing software, presentation software
Digital camera, scanner

Curriculum Snapshots

Focus:
Hydroponics

Grade:
Nine

Source:
Diane O'Malley
Franklin County High

Diane O'Malley helps students understand an alternative method for growing food.

Hydroponics—growing plants in nutrient solutions instead of soil—date back to the Hanging Gardens of Babylon and raft gardens of the Aztecs. Hydroponic techniques are gaining popularity as practical methods of addressing water and soil conservation. They allow for a high yield, quality crop production. Hands-on experimentation with hydroponics offers opportunities to learn about math, chemistry, biology, and technology.

Direct students to the *Virginia Hydroponics* Web site, where they can view flood-and-drain system animation. Here they can also learn more about the advantages of using different hydroponic techniques such as the capillary system, flood-and-drain system, and nutrient film technique.

Using the *Virginia Hydroponics* Web site and electronic encyclopedias, students research the history of hydroponics and set up a functioning hydroponic unit in a classroom or greenhouse. This can easily be done with simple and inexpensive materials. Students build systems using 2-liter soda bottles and PVC pipe. They select the plant material, the growing method, the type of environment, and the light and feeding systems for their plants.

Students also research the economic impact of hydroponically grown fruits and vegetables on the local consumer market and estimate the cost of setting up a small-scale hydroponic unit. Students then research the cost of setting up a large-scale system at a commercial greenhouse. At *The Growing Edge* Web site students learn more about the history of hydroponics and the scientists who have made significant contributions to the field. Students work in pairs to prepare presentations about hydroponics scientists.

Students create a consumer survey for the local supermarkets and their customers regarding the demand for hydroponically grown fruits and vegetables. Using videoconferencing equipment, they can interview growers, suppliers, and technical support people.

Culminating activity: Students create a Web site about their experiences with hydroponics.

Resources:
Virginia Hydroponics. http://www.hydro4u.com
The Growing Edge. http://teleport.com/~tomalex

Software & Hardware:
Word processing software, presentation software
Electronic encyclopedias
Videoconferencing equipment

Curriculum Snapshots

Focus:
The Holocaust

Grade:
Nine

Source:
Glenna Moore
Franklin County High

The phrase "ethnic cleansing" elicits a personal response among students who take Glenna Moore's class.

Intense and personal—that's the best way to describe student responses as they listen to Nazi Holocaust survivors and members of the local Jewish community share how the Holocaust affected their lives. Students prepare for this experience by reading several literary selections, including *Anne Frank the Diary of a Young Girl*. As a companion to the book, students write their own thoughts in a diary as they learn more about the Holocaust. Students can visit the *Anne Frank Center* Web site and take an on-line tour of her house, now the site of the Anne Frank Museum in Amsterdam.

To help students formulate a comprehensive understanding of the Holocaust, show the video *Holocaust: A Teenager's Experience*. This documentary tells the story of David Bergman's internment in a Nazi concentration camp. Discuss the events in this film and have students share other things they have read or heard about what happened to people in Nazi Germany. Have students create family trees of their grandparents, parents, aunts, uncles, cousins, brothers, and sisters. This can be done using *Inspiration* software. As you talk with them about Nazi Germany, intermittently announce that "it's time to lose another loved one" and ask them to cross out a member of their family. Continue until they are the only ones left in their families. Ask students to write about their feelings and what they would do if this were to happen to them and their families.

Have students research the music played in concentration camps, as well as the art and drawings left by Jews. Comparative studies might focus on weapons technology during World War II and trends in military warfare today. Students can also discuss the Holocaust in terms of five geography themes: location, place, movement, region, and interaction between people and environment. Students can visit the *United States Holocaust Memorial Museum* Web site as well as other sites and electronic encyclopedias.

Culminating activity: After hearing from Holocaust survivors or members of the Jewish community, students plan an appropriate commemoration of National Holocaust Remembrance Day. Have students create a time line of the Holocaust.

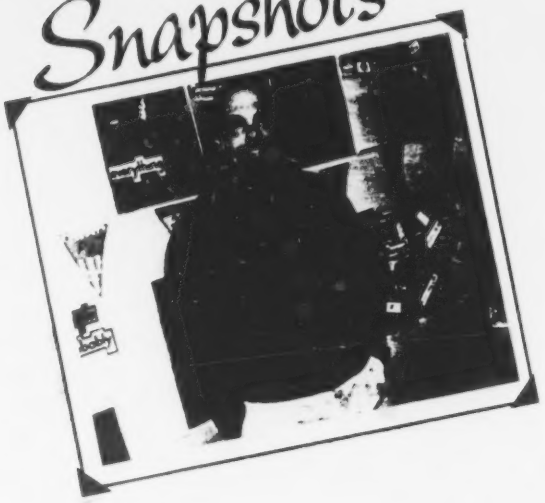
Resources:

United States Holocaust Memorial Museum. http://www.ushmm.org
Anne Frank Center. http://annefrank.com
Anne Frank House. http://213.53.70.53
AGC United Learning. *Holocaust: A Teenager's Experience.* Videocassette.
Book: *Anne Frank the Diary of a Young Girl* by Anne Frank

Software & Hardware:

Tom Snyder Productions. *TimeLiner.*
Inspiration. *Inspiration.*
Word processing software, presentation software
Electronic encyclopedias

Curriculum Snapshots



Focus:
Demographics

Grade:
Ten

Source:
Tracy Whittaker
Franklin County High

Students exiting Tracy Whittaker's class understand the meaning and significance of the word demographics in a market economy.

Small and large companies use demographic data to determine how to market their products to people of different ages, genders, classes, cultures, geographical areas, and so forth. Likewise, students can gather demographic data about their town, state, and country by sending e-mail requests for information and by visiting Web sites. The U.S. Bureau of the Census and the Bureau of Labor Statistics maintain two of the many helpful Web sites students can visit. Students can e-mail demographic questions to Primedia Intertec at webmaster@demographics.com. A librarian can also direct students to several helpful resources housed in school or public libraries.

Take students to the CNN Newsroom with the video *Society in Transition, Multiculturalism in the U.S.* This production explores the changing ethnicity in the Los Angeles area and examines cultural change in neighborhoods, schools, and the workplace. As a follow-up, ask students to share their feelings about the impact of changing demographics on their city and state. Ask students to interview family members to determine when and why their ancestors came to America.

Culminating activity: After data have been collected, each student creates an oral and written report to interpret findings to the class. Possible topics include these:

- approaches to marketing a particular product to people in their town, state, or country
- implications of collected data for students hoping to find a good-paying local job after high school graduation
- population trends and their possible effects on the state economy

Students can also create bulletin boards using information gleaned from their reports.

Resources:

Census Data. http://www.censusindia.net/
Census and Demographic Data. http://www.clark.net/pub/lschank/web/census.html
Bureau of Labor Statistics. http://stats.bls.gov/blshome.htm
Turner Multimedia. *Society in Transition, Multiculturalism in the U.S.* Videocassette.

Software & Hardware:

Word processing software, presentation software

Curriculum Snapshots

Focus:

The Impact of Simple Organisms

Grade:

Ten

Source:

Jim Worley
Franklin County High

Jim Worley's students put simple organisms under the microscope of intensive research.

Viruses, microscopic particles that cause disease, are not classified as living things, yet viruses are dependent upon and affect the lives of many different organisms. Do you know the difference between a virus and a fungus? What about monera or protista? What are they and what do they have to do with everyday life? A good resource for students is the *Eyewitness Encyclopedia of Nature*. This comprehensive multimedia library offers students access to videos, animation, and in-depth articles about hundreds of animals, habitats, plants, and microorganisms.

Students conduct research and write reports on these diverse organisms using the Internet, electronic encyclopedias, and science software such as *Protozoa Systems*. They will discover how these microscopic organisms are important to humans and other organisms, including the benefits and dangers (if any). Working in pairs, students prepare a presentation on one organism to present to the class. Presentations should include images retrieved from the Internet or electronic encyclopedias.

Related activities include these possibilities:

- Research the tobacco mosaic virus and prepare a multimedia presentation on the findings.
- Investigate the use of algae as a food source in Japan and China, then use presentation software to share findings with the entire class.
- Research bracket fungi and explain why this type of fungus is unique.

Culminating activity: Students work together to prepare Web pages for this project to be posted on the school's Web site. Students are responsible for updating the information about their projects as they progress through the unit of study.

Resources:

The WWW Virtual Library. "Model Organisms." http://ceolas.org/fly/models.html

The Tree of Life. http://phylogeny.arizona.edu/tree/phylogeny.html

The Sciences Explorer. http://library.advanced.org/11771/english/hi/biology/taxonomy.shtml

Software & Hardware:

DK Interactive Learning. *Eyewitness Encyclopedia of Nature.*

EME Corporation. *Protozoa Systems.*

Word processing software, presentation software

Electronic encyclopedias

Curriculum Snapshots

Focus:
Career Search

Grade:
Eleven

Source:
Sandra Layman
Franklin County High

Juniors in Sandra Layman's class learn to apply technology—and themselves—when looking for a job.

Job seekers will tell you that finding a job sometimes seems like a full-time job. Understanding the hiring process and how to conduct a successful job search can help people make the right moves.

Students entering the work world need to know about fringe benefits such as medical and dental insurance, 401(K) and other retirement plans, paid vacation, paid sick leave, paid holidays, bonuses, stock options, life insurance, travel reimbursements, and overtime.

Have students visit the *Yahoo! Careers* Web site, where they will select three jobs they are interested in and collect information on salaries and benefits for these positions. They should also visit the *Resume Shop* Web site to learn what a resume is and how to create one that is professional looking. Using word processing software, they will create a resume and write a letter of application for an entry-level position. The *Homework Central* Web site and the *Virginia Tech Online Writing Lab* can provide help with grammar and writing skills.

Bridges CX is a multimedia resource that provides students with information needed to make career decisions. A companion Web site posts pertinent news items, interviews, and articles daily. Ask students to analyze their interests and job-related skills. Have them write personal plans of action to help them achieve their career goals.

Other activities include the following:

- Conduct mock interviews and skits to demonstrate correct and incorrect ways to dress, act, and answer questions during an interview.
- Have students fill out job applications to be evaluated by the prospective employer.
- Have an adult play the role of a potential employer and interview each student. Ask a member of the business community to serve in this role.
- Encourage each student to create an electronic portfolio for a job interview or job search. A professional-looking resume and cover letter should be included.
- Press a CD of the electronic portfolio.

Resources:

Bridges CX. http://www.bridges.com.
Yahoo! Careers. http://careers.yahoo.com
Virginia Tech. *Online Writing Lab.*
http://www.homeworkcentral.com/files.htp?fileid=47771&use=hc
Homework Central. http://homeworkcentral.com
Resume Shop. http://www.resumeshop.com

Software & Hardware:

Online Learning Experience. *Bridges CX.*
Word processing software, presentation software

Curriculum Snapshots

Focus:
Cultural Diversity

Grade:
Eleven

Source:
Susan Newton
Franklin County High

Student minds in Susan Newton's class meet at the crossroads of culture and medicine.

People of many different cultures, religions, and ethnic groups go into doctors' offices and hospitals for medical help every day. How can health care workers recognize and respect these differences as they give high-quality care?

As students research this question, they become aware of various attitudes and beliefs about health, illness, and death. A good way to begin is by showing the video *How Beliefs and Values Define a Culture*. This program explains how beliefs and values influence various cultures.

Afterwards, let students "jigsaw-teach" about world cultures: divide the class into small groups, ask each group to research a different culture or religion, and have each group share its "piece of the puzzle" with the class. An excellent resource for this activity is *DISCovering Multicultural America*. It contains information on four major ethnic groups: African Americans, Hispanic Americans, Asian Americans, and Native Americans. Information is organized by people, subjects, places, significant documents, or by time line. Students can customize searches and save the information to disk.

Students can then create health care scenarios in which they role-play representatives of various cultural or religious groups. They might create skits or a play that demonstrate diverse responses to medical dilemmas, create posters that demonstrate the differences in dress, conduct a luncheon exhibiting foods from various cultures, or write letters expressing the feelings of patients entering a modern hospital for the first time.

Technology can be integrated into the above ideas as follows:

- Use electronic encyclopedias and the Web sites listed below to research different cultures and religious beliefs.
- Use presentation or concept mapping software to help jigsaw-teach about different beliefs and attitudes toward the medical profession.
- Use a library service such as *SIRS* to find articles on how to deal with cultural and religious differences.

Resources:

Bioethical Services of Virginia.
http://members.aol.com/bsvinc
Medical Ethics.
http://www.learner.org/exhibits/medicalethics
United Learning. *How Beliefs and Values Define a Culture.* Videocassette.

Software & Hardware:

Gale Research. *DISCovering Multicultural America.*
SIRS Mndarin, Inc. *SIRS Discover Deluxe.*
Word processing software, presentation or concept mapping software
Electronic encyclopedias
Digital camera, scanner

Curriculum Snapshots

Focus:
Creative Writing—Imagery

Grade:
Eleven

Source:
Raymond Williams
Franklin County High

Ray Williams finds that unlocking the minds of contemporary poets can offer students keys to unlocking their own creativity.

What inspires an author to write, an artist to paint, or a musician to compose? Students can explore the answers to these questions through activity-based assignments. Show students the video *Spirit to Spirit: Nikki Giovanni*, which details the poetry of Nikki Giovanni against the background of her times: the Civil Rights struggle, the Vietnam War, and the Women's Rights movement. This poet's works present a mosaic of themes related to art, race, sex, and humanity. The underlying objective is to help students see how imagery influences theme, point of view, and mood. Students also learn how culture and personal experiences influence poetry. Lead students in a discussion about where and how poets get inspiration for their poems. Discuss contemporary poetry, using the poems from this program as models. Have students write an essay about one of the major issues of the 1960s—the Civil Rights movement, Women's Rights movement, or Vietnam War.

Introduce students to *In My Own Voice*. This program combines language with visual and music resources designed to inspire students to write poetry. Nine contemporary poets read their poems aloud and give personal introductions to their poetry. The focus is on a variety of cultural perspectives, backgrounds, and personalities. After demonstrating this program to the whole class, ask students to write reflections on the poetry. Divide students into small groups to discuss the moods and meanings of the poetry. Have students write their own poems. (*In My Own Voice* includes a "word generator" to help inspire poetry.)

Introduce students to the works of Vincent Van Gogh with *Van Gogh Revisited*. This computer-interactive videodisc celebrates the artist and his work. The program encourages browsing and independent study; fosters art appreciation and cultural heritage; and facilitates the integration of art, music, and social sciences. Lead students in a discussion about the factors that influenced Van Gogh and his art. Have them work in groups to study and prepare a report about Van Gogh's favorite subjects. Have students create an impressionist work of art, such as a poem, song, or dance.

Resources:
Direct Cinema Limited. *Spirit to Spirit: Nikki Giovanni*. Videocassette.

Software & Hardware:
Sunburst Communications. *In My Own Voice*.
Voyager. *Van Gogh Revisited*.
Word processing software, presentation software

Curriculum Snapshots

Focus:
The "Write" Stuff

Grade:
Eleven

Source:
Kimberly Young
Franklin County High

Kimberly Young introduces young writers to their best teacher—experience.

Content-rich Web sites help aspiring young writers glean the experience of other writers. They visit the *Right in Class* Web site for helpful advice on constructing student research lessons centered on World Wide Web curriculum areas. They read and analyze the writings of others and offer suggestions for improvement. They write a research paper on a famous author, using either the Modern Language Association or American Psychological Association style. Information on both styles is available at the *Guide to Grammar and Writing* Web site.

While visiting the *Guide to Grammar and Writing* Web site, students review principles of composition and take interactive quizzes to test their knowledge of grammar. They can e-mail questions about English usage or grammar. They look at business letters and memos and critique them for effectiveness, then compose their own business letters, thank-you letters, or memos. Copies of these works (without author names) can be distributed to the class for peer review.

Multimedia Workshop provides a rich environment for planning, developing, and producing a large array of print- and computer-based products by using a writing, paint, or video workshop. All stimulate the imagination and foster creativity. Students can work their way through planning, drafting, revising, producing, presenting, and publishing. Project activities are designed for cooperative learning teams of four to six students.

Students can submit their writings on-line for critical review by others, then revise their papers according to the feedback they receive. They can participate in the critique process, keep records of their own commentaries, and acknowledge any responses they receive. They can create illustrations for poems and stories they find on Web sites to show their interpretation of the writer's purpose. Students can collaborate on a piece of writing and bring their illustrations together for a presentation.

Resources:

Right in Class–Teaching with Technology.
http://www.pacificrim.net/~chinshaw/ric.htm
Guide to Grammar and Writing.
http://techwriting.about.com

Software & Hardware:

Knowledge Adventure. *Multimedia Workshop.*
Word processing software, presentation software
Digital camera, scanner

Curriculum Snapshots

Focus:
Bridges of the USA

Grade:
Twelve

Source:
Tim Fulton
Franklin County High

Tim Fulton "builds a bridge" between geometry and real-world applications.

Geometry, drafting, the ability to read blueprints, and familiarity with a CAD system all play an integral part in this geometry-based assignment: Create a model of a three-dimensional figure from a two-dimensional drawing, and make a two-dimensional representation of a three-dimensional object. Computer simulations, Web sites, and *Super Tutor Geometry* all help students build models and representations, including scale drawings, perspective drawings, blueprints, or computer simulations.

One way students can master these concepts is to build a bridge. Students work in groups to build different designs. Each group is charged with the task of designing a bridge to serve a specific purpose. They research the type and design structure of the bridge they decide to build then present their findings to the class, using presentation software, in the form of a preliminary study of the effectiveness of their design.

Each group can use the Geometer's Sketch Pad to make preliminary drawings of the bridge they are going to build, then transfer that information into a CAD system that allows the group to develop accurate drawings that can be developed into blueprints. Groups can document the bridge building process with pictures taken with the digital camera.

As students work through this process, they can refer to *Super Tutor Geometry* to revisit concepts needed to complete the assignment. This program includes videos on real-world geometry and provides practice quizzes. Topics include circles, parallel and perpendicular lines, angle measurement and vectors, points, area, triangles and quadrilaterals, and more.

Students visit the *Bridges of the USA* Web site and select a bridge they want to learn more about. They prepare a report on the history, design, and construction of the bridge. They also visit the *Better Roads—1998 USA Bridge Inventory* Web site to collect data about that particular state and the state they live in. Students create a project page for the school Web site and provide links to appropriate sites.

Resources:

Better Roads–1998 U.S. Bridge Inventory.
http://www.betterroads.com/better_roads/bridgeinv98.htm

Bridges of the USA.
http://209.237.148.147/brlinks.htm#Title1

Software & Hardware:

Super Tutor. *Super Tutor Geometry.*
Word processing software, presentation software
AutoCAD/CAD system, Geometer's Sketch Pad, digital camera

Curriculum Snapshots

Focus:
Modern Agriculture

Grade:
Twelve

Source:
James Waddy
Franklin County High

Brown cows don't give chocolate milk; this is one bovine truth James Waddy's class learns.

On the school bus one morning, a friend asks if you've ever seen the Oreo cows. A local farmer has some cows that are solid black except for their white midsections. If you knew a little more about dairy farming, you would know the official breed name for these cows is Dutch Belted. You might also know what kinds of technology today's farmers use.

Students can use the Internet and electronic encyclopedias to study the history of dairy farming. Invite them to visit these Web sites: *Holstein USA*, *Texas A&M Extension Animal Science*, *Animal Protection Institute*, and *Farm Safety and Health Information Clearinghouse*. Show the video *Sustaining America's Agriculture: High Tech and Horse Sense*. This video discusses how modern agriculture is working to improve production. It covers land management, environmental preservation, reduction of agricultural wastes, water conservation, and more.

Lead students in a discussion about how and why modern agriculture works to find environmentally sound and sociologically acceptable practices. Ask them to create a multimedia presentation or Web page that addresses why a farmer should be concerned with a wildlife corridor or habitat. Have them investigate and report on agricultural job opportunities in their geographic area.

If possible, arrange for a field trip to a dairy. Here, students can learn about computers designed specifically for the industry, such as milkers and feeders, and software designed for herd management. If practical, set up a flex cam so students can observe daily activities. They can take digital photos and copy pictures from the Internet or encyclopedia of cattle that are not raised in the area. These will be used for presentations to the class. Students can also videoconference with other schools to discuss dairies in their areas. Students can e-mail dairy farmers with specific questions.

Resources:

Holstein USA. http://www.holsteinusa.com

Texas A&M Extension Animal Science.
http://animalscience-extension.tamu.edu

Animal Protection Institute.
http://www.api4animals.org/DairyFactSheet.htm

Farm Safety and Health Information Clearinghouse.
http://www.bae.umn.edu/~fs

New Dimension Media. *Sustaining America's Agriculture: High Tech and Horse Sense*. Videocassette.

Software & Hardware:

Word processing program, presentation software
Digital camera, large monitor, video camera, videoconferencing equipment

Curriculum Snapshots

Focus:
Newspaper Publication

Grade:
Twelve

Source:
Donna Guthrie
Franklin County High

When Donna Guthrie's students say "scoop," they are not talking about ice cream.

Students use technology to help them keep up with the latest news as they produce articles and photographs to include in the monthly school newspaper. These aspiring reporters can become proficient in all language arts skills, including research, interviewing, writing, editing, proofreading, mechanical skills, and meeting deadlines for written material.

Classroom Newspaper Workshop turns every student into a reporter and makes every classroom a newsroom. This interactive, hands-on unit takes students through every phase of creating a newspaper while fine-tuning their skills. Students learn about generating story ideas, conducting interviews, grammar and sentence structure, editing, layout, design, photography, and reporting in all curriculum areas including community and family.

Have students create a school newspaper (if one already exists, have them create a special edition). They should include local, community, and family events as well as one national and one state news story.

Students apply math skills as they use ratios and proportions to size photos prior to sending the paper to press. They must identify sizes and shapes in cropping photos and use fractions and other mathematical measurements to produce a columnar publication that is aesthetically balanced.

A field trip to the local newspaper office can be an exciting experience for students. They can talk with editors and reporters and see the newspaper production process. Listed below are some Web sites students might regularly use. They can also visit the Web sites of their local newspaper and news stations.

Resources:

Washington Post. http://www.washingtonpost.com
CNN Interactive. http://www.cnn.com
USA Today. http://usatoday.com
New York Times. http://www.nytimes.com
MSNBC. http://www.msnbc.com
The Weather Channel. http://www.weather.com

Software & Hardware:

Tom Snyder Productions. *Classroom Newspaper Workshop.*
Word processing software
Digital camera, 35 mm camera, scanner

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Curriculum Snapshots

Focus:
Spanish-Speaking Countries

Grade:
Twelve

Source:
Renae Lambert
Franklin County High

Students in Renae Lambert's Spanish III and IV classes become travel agents for a mock travel agency.

Students research the capital cities of Spanish-speaking countries and create travel packages for tourists. *Spanish Tutor* is a perfect tool to refresh vocabulary in preparation for this task. It includes grammar exercises and allows students to listen to native speakers.

Divide students into groups. Each group selects one of the 20 Hispanic capitals. This is a collaborative effort, and each student is required to participate equally in the process on behalf of the class's "travel agency." Introduce them to *International Inspirer*, where they can find information on 185 nations, including geographic locations, maps, and graphs. This award-winning software has a companion Web site, where students can compete with other schools over the Internet.

Using a variety of resources including the Internet, electronic encyclopedias, and the school library, students research their selected country. Their task is to create a brochure and TV commercial about the city they have chosen. The school's telecommunications students videotape and edit the commercials using *Avid Cinema*. Both the brochure and commercial should contain the following information:

- price of airfare and hotel accommodations
- five or more activities or attractions to enjoy while staying in the city
- listing of restaurants and examples of cuisine
- map and information that describes the location, population, and topography
- interesting and/or historical information (whether the city is famous or well known for something)

To give projects a professional and polished look, have students use *Clip Art for French and Spanish Classes*. This package includes hundreds of Spanish drawings that are appropriate for student projects. Each travel agency (group of students) presents its brochure and commercial to the entire class.

Resources:
International Inspirer Contest Web Site. http://www.tomsnyder.com/classroom/InspContest/rules.html
Travel Planning. http://www.travel.org/index2.html
Maps

Software & Hardware:
Avid Technology, Inc. *Avid Cinema.*
Forest Technologies. *Visual Spanish.*
Tom Snyder Productions. *International Inspirer.*
Teachers Discovery. *Clip Art for French and Spanish Classes.*
Presentation software, word processing software
Electronic encyclopedias
Video cameras

Shutter Settings

Software Types

Drill-and-Practice

Drill-and-practice software provides students with opportunities to practice concepts they have already learned. Usually the program provides feedback to students, and many drill-and-practice applications contain management features that enable teachers to track students' progress. Examples of drill-and-practice software include *STAR Math, Accelerated Reader, CCC Success Maker,* and *Skills Bank.*

Curriculum

Curriculum software supports instructional goals and objectives by providing or enhancing content. The multimedia design of much curriculum software addresses a variety of learning styles. Examples of curriculum software include *The American Girls, Magic School Bus Series,* and *A.D.A.M.*

Research Tools

Research tools include such materials as encyclopedias, journals, geographic references, atlases, and other traditional reference materials that are now available in an electronic format. Many research tools are available in a CD-ROM format or on-line. In addition to the World Wide Web, on-line reference tools include subscription services such as *The Electric Library* and *Career Explorer.*

Academic Games

The video game industry has promoted many advances in technology, including the creation of sophisticated graphics and simulations. Academic games capitalize on these and may use these elements to present drill-and-practice exercises for learners, often with scoring options that promote the game experience. Academic games include *Math Blaster, Spell It,* and *Word Munchers.*

Management

A type of productivity tool, management software applications are used to manage data more efficiently. Common management tasks include grading and test creation and scoring. *Gradebook Plus, Integrade,* and *Make Test* are examples of management software.

Instructional Simulations

Simulations offer a variety of instructional experiences that might otherwise be too costly or impractical. Graphically realistic simulations may allow students to perform dissections, mix chemicals, or visit other planets. Simulation software often requires students to apply verbal, computational, and attitudinal skills in hypothetical situations. Popular examples of simulation software include *SimCity, Oregon Trail,* and *Science Sleuths.*

Computer-Mediated Communication Tools

Computer-mediated communication tools support synchronous and asynchronous communication. E-mail applications, Web browsers, videoconferencing software, and groupware fall into this category. Examples of computer-mediated communication tools include *Eudora, Netscape Communicator, CU-SeeMe,* and *GroupSystems.*

Productivity Tools

This large category is often described as "tool software." Productivity tools are used to produce documents, spreadsheets, databases, images, or other products. Authoring tools, which are used to produce computer programs, also fall into this category. *Microsoft Word, ClarisWorks, HyperStudio, TimeLiner,* and *Kid Pix* are examples of productivity tools.

Software & Video Descriptions

***Access to Math* by Don Johnston, Inc. (CD-ROM).**

This program is designed to accommodate any student learning style quickly and easily. Worksheets for addition, subtraction, multiplication, and division can be completed on-screen or off the computer. Teachers can target specific areas in which students need additional practice and easily generate worksheets with appropriate problems so that students can successfully complete the assignments.

***Adventure.com U.S.A.* by Ingenuity Works, Inc. (VR Didatech) (CD-ROM)**

This interactive multimedia program examines America's culture and heritage through slides, video, sound, and text. It provides a framework for students to create their own adventures using their own pictures and graphics, as well as those provided in the program. Students (a) personalize adventures/trips across America, (b) discover the basic components of a visual presentation, (c) examine historical events and geographic settings that can be used as beginning research topics, (d) link to current information via the Internet, (e) demonstrate geographic identification and location skills, (f) experiment with customizing and creating original journals, and (g) access navigation tools and help functions. This program supports standards related to geography and U.S. history, and reinforces student skills in research, historical interpretation, and presentation.

***AfricaQuest* by Classroom Connect (Online Learning Experience, Computer-Interactive Videodisc)**

The Classroom Connect Quest activities connect students with a team of explorers to investigate ecosystems and cultures around the world. Activities are typically of four-week duration. Students (a) send messages to direct the team in the search for answers to a scientific or archaeological mystery, (b) help find a balance between the conflicting needs of people and other living things, and (c) select destinations. On-line activities are varied and usually include a schedule similar to this one from *GalapagosQuest* (March 1999). Monday: Vote to choose the explorer's destination. Tuesday: Science Stumpers (unanswered questions that mystify today's scientists). Wednesday: Dan's Dilemma (ethical and logistical issues facing the explorers). Thursday: Get a clue! (Decision-making activities focusing on the scientific or archaeological mystery). Friday: Vote on environmental issues. This program facilitates the integration of science, history, and English-language arts.

***All I See* by SRA School Group (Video)**

This production, based on the book by Cynthia Rylant, gives a child's view of the world. Segments explore the world of painting, investigate friendship, and describe creative expression. Symphonic music and illustrations by artist Peter Catalanotto enhance artistic themes. The video examines painting and drawing techniques, reinforces the role of mentors,

and promotes conservation of natural resources. The program provides opportunities to discuss friendship and endangered species; offers topics for creative writing; and supports the integration of language arts, science, guidance, art, and music.

Amazing Writing Machine **by Broderbund Software, Inc. (CD-ROM)**

This creative writing tool invites students to express thoughts, ideas, and opinions in five forms–story, letter, journal, essay, and poem. Each form provides numerous models that can be read aloud by a digitized voice. Project models include pre-designed page layout templates with areas for text and graphics. Painting tools, rubber stamps, and clip-art are included. A Rebus tool transforms words into symbols and pictures. A "Bright Ideas" feature helps students choose topics. A "Spin" mode let students choose pre-written entries to edit and enhance. A spelling checker is included. Students in primary grades will be engaged by the program, but, because of its complexity and content, most teachers will prefer to use it in grades three and above.

American Girls Premiere **(Second Edition) by The Learning Company (CD-ROM)**

This program is designed to help students create, direct, and perform their own plays from five different time periods of American history. The students act as directors, choosing from 60 scenes, 125 historical props, 45 historical costumes, 250 musical selections, 5 American Girl stars, 55 co-stars, 16 actions and emotions per character, and more than 250 lighting and sound effects. They will decide on actions and emotions for the characters and write the dialog. Students may record their own voices or use the text-to-speech capabilities of the computer.

Ancient Rome **by Encyclopedia Britannica Educational Corporation (Video)**

This documentary examines Rome and its place in the ancient history of the Mediterranean Basin. Segments (a) discuss the extent of the Roman empire, (b) recapture the look and feel of Rome around 300 A.D., (c) take viewers on a tour of the principal landmarks treasured by ancient and modern Romans, (d) paint a picture of everyday life in the ancient city, and (e) draw parallels with activities and problems of everyday life in the city today. The program reinforces the relationship between the past and the present, encourages further study, supports higher level thinking, and facilitates the integration of social sciences, language arts, and fine arts.

Animals and How They Grow **by National Geographic Society (CD-ROM)**

This program provides descriptions of the life cycles of various animals, including amphibians, insects, reptiles, mammals, and birds. Attributes are given for each group and include such things as camouflage, growth and change, and behaviors. The program can be easily customized by teachers so students can follow along as the text is read in English. The length of the pauses between phrases can be adjusted to match the listening ability of the reader. Students can click on an individual word or on an item in the picture, get a label for a picture, and then hear the pronunciation and/or get an explanation of the word either in English or Spanish. Each student's place and customized settings can be stored as an individual file on the hard drive.

Animals on the Farm **(Animals Around You Series) by National Geographic Society (Video)**

This presentation investigates farming and the families who live on farms. Segments describe the characteristics of several farm animals, identify the ways farmers take care of animals, and compare adult animals with their young. Sequences explain specialization, display modern equipment and machinery, and illustrate the products derived from farm animals. The production includes a tour that shows milking of cows, the shearing of sheep, the egg-producing process from laying to packaging, and ends with a visit at a supermarket. The program encourages discussion about food production and marketing, and facilitates the integration of language arts, science, and social sciences.

Animal Planet **by Discovery Channel School (CD-ROM)**

This interactive expedition explores eight different biomes with over 1,100 creatures. Students (a) examine in detail the creatures in each ecosystem, (b) add to field notes, (c) discover how to report information, (d) select any animal within any biome to investigate interactions, (e) listen to details about groups of living things and the biomes in which they live, (f) collect and store field notes, (g) pre-organize a report, and (h) write findings in an original report. Access to World Wide Web information, color images and panoramic video, text, and sound enhance the presentation. This program allows

students to explore a wide variety of animals and habitats.

***Apples* by DeBeck Educational Video (Video)**

This production tells the story of apples from their origin and earliest uses to present-day farming and contemporary uses. Segments (a) explore life on a farm, (b) encourage the cultivation of the apple tree, (c) highlight stories of apple pioneers such as Johnny Appleseed and John and Hannah McIntosh, (d) describe how to graft trees and use an electron microscope, and (e) present the differences between pioneer life and life today with specific reference to apples. This program supports an appreciation of apple history and facilitates the integration of art, English-language arts, history, social science, and science.

***Arthur's Birthday Deluxe* by Broderbund Software, Inc. (CD-ROM)**

This interactive experience in reading is based on books by Marc Brown. Through images, sound, and music, students engage in the story itself, the many related animations, and two games. "Pin the Tail on the Donkey" is a musical challenge to students to pin a tail onto an animated donkey that dances across the screen to country and ballet music. "The Great Gift Mystery" provides clues to help students match Arthur's gifts to the children who gave them to him. A Spanish version is available as *Arthur's Birthday* in the Living Books Framework Volume II.

***Avid Cinema* by Avid Technology, Inc. (CD-ROM)**

Avid Cinema software can be used to create professional-looking videos for home, school, or office. With a camcorder and a little imagination, anyone can easily create masterpieces that are fun to watch—and even more fun to make! Create new videos or add impact to your existing collection by using editing techniques, music, voice-overs, titles, and special effects. Share finished videos by publishing to the Web, CD-ROM, e-mail, or videotape.

***Barn Dance* (Reading Rainbow Series) by Great Plains National Instructional Television (Video)**

This program highlights the book by Bill Martin, Jr. and John Archambault. The illustrations of farm animals, the scarecrow, and the boy jump off the page. Host LeVar Burton travels to the hilltops of Tennessee in search of true bluegrass music and down-home dancing. He gets a lesson in clogging and kicks up his heels at an authentic barn dance. The program encourages students to read good books and to utilize their public libraries. The presentation design promotes using short segments during any one class session.

***Basics of Geography II* by United Learning (Video)**

This two-video program examines several aspects of geography. Segments (a) examine the impact of geography upon the life styles of people living in the different geographical regions; (b) explain the formation of continents and constancy of change; (c) locate oceans and continents on maps; and (d) discuss the relationships among climates of the world, natural vegetation and resources, and population density. Designated pauses, animation, graphs, charts, maps, models, and reenactments clarify the concepts presented in the videos. This presentation encourages an appreciation of how physical surroundings affect the life of the people.

***Beatrix Potter: Artist, Storyteller and Country Woman* by Weston Woods Studios (Video)**

This documentary, narrated by Lynn Redgrave, investigates the life and contributions of storyteller Beatrix Potter. Segments (a) detail life in Victorian England, (b) share the genius of Potter, (c) explore the natural world that entranced Potter, and (d) describe farming in the north country. Potter's sketches, landscapes, and drawings demonstrate her artistic ability, while archival photos and live footage communicate the era and locale. This program stimulates critical thinking, encourages further study, and facilitates the integration of art, English-language arts, and history-social sciences.

***Becoming a Wise Consumer* (Finding Your Way in the Working World Series) by Bergwall Productions, Inc. (Video, CD-ROM)**

This presentation, one of a series on career development, examines how to maximize purchasing dollars. Segments address the factors that affect consumer spending, list principles for consumer purchasing, discuss how to borrow or rent money, and identify processes for selecting consumer loans. Interviews, demonstrations, and examples delineate the importance of work in our society, highlight consumer awareness, and facilitate the integration of school to career, home economics, mathematics, history, social science, and guidance.

***Bee* (Animal Families Series) by Barr Films (Video)**

This presentation features a close look at the eating habits, early development, natural habitats, and interactions of the bee. Segments explain why bees are insects, describe their basic life cycle, investigate the typical hive activity, and examine the importance of bees to the environment. Sequences explore the roles of the different kinds of bees, show how nectar is collected and turned into honey, and depict how the beekeeper gathers and processes the honey for consumption. The production provides an opportunity to observe and discuss pollination and its relationship to the bees and other species. The program promotes interest in insects and facilitates the integration of language arts, science, and social sciences.

***Bee Basics* and *Spider Survival* by Pyramid Media (Videodisc)**

This program examines the lives and functions of bees and spiders. *Bee Basics* explores the rituals of the honeybee; provides a view of the life cycles and tasks of the queen bee and her drones, workers, and nurses; records the precision of honeycomb construction; and follows the metamorphosis from egg and larva to adult bee. *Spider Survival* details the evolution of the spider, describes where spiders live, and explores the function and importance of the spider in maintaining a balanced ecological system. The two programs foster interest in the natural world, stimulate critical thinking, and facilitate the interaction of science and social sciences.

***Big Green Caterpillar* (Third Edition) by Stanton Films (Video)**

This product examines the development of a caterpillar from egg to moth. Segments (a) depict an egg being discovered by two children; (b) show them providing it with a natural environment with the help of their science teacher; (c) highlight the caterpillar's progress as it hatches, eats, moves, molts, and spins a cocoon; (d) show the adult insect coming from the cocoon; and (e) describe the release of the adult moth. This program facilitates integration of science and languages.

***Biology Explorer: Cardiovascular System* by LOGAL Software, Inc. (CD-ROM, Online Learning Experience)**

This interactive simulation, which shows the heart and the circulatory systems both as organs and in cross section, helps students understand blood flow through the heart and body. The model demonstrates the precise connection between blood flow, blood pressure, and vessel elasticity, and allows the user to investigate the effect of these variables. The program includes a built-in tutorial for using the program capabilities, a set of core activities for developing specific concepts, and open-ended explorations leading to a deeper understanding of the concepts. It is easy to manipulate and holds student interest.

***Bridges CX Online* (CD-ROM, On-line Learning Experience)**

Career Explorer is a multimedia resource that provides students with the information needed to make career decisions. The CD-ROM is updated twice a year. The Web site receives pertinent news items, interviews, and articles daily. Students obtain career information, assess job-related skills, develop decision-making skills, gain understanding of personal strengths and interests, and utilize tools to create a portfolio. Articles with career information for students contain five sections: (1) job description, salary range, required skills, and links to online resources for further research; (2) interview of a current expert in the field about the career; (3) presentation of how math is used in the career, with examples of problems and suggested solutions; (4) depiction of a real-life decision faced by someone in the field and simulations for students to make choices and see consequences; and (5) examples of the kinds of communication skills that are needed for the job.

***Brush* (Reading Rainbow Series) by Great Plains National Instructional Television (Video)**

In this book by Spanish poet Pere Calders, a brush becomes a replacement for a lost dog. All may not be what it seems when host LeVar Burton takes a look at the art of 3-D animation and visits Macy's warehouse where the famous Thanksgiving Day parade balloons and floats come to life. A student book review highlights *What the Mailman Brought* (Craven, illustrated by Tomie de Paola). The program encourages students to read good books and to utilize their public libraries. The presentation design promotes using short segments during any one class session.

***Canterville Ghost* (WonderWorks Series) by Public Media, Inc. (Video)**

This presentation from an award-winning public television series dramatizes a story by Oscar Wilde.

Segments tell of the trials and tribulations of an American family that spends the summer in an English house with a ghost. The production lends itself to discussions of theme, characterization, and plots; provides the opportunity to compare and contrast life in England with life in America; and supplies content and ideas to practice the writing process. The program encourages the reading of good literature, supports thematic instruction, and facilitates the integration of language arts, social sciences, and guidance.

Choices, Choices 5.0 **by Tom Snyder Productions (CD-ROM)**

Kids face difficult choices every day, balancing their own values with the expectations of friends, parents, and teachers. *Choices, Choices* helps students develop the skills and awareness they need to make wise choices and to think through the consequences of their actions. Features include enhanced graphics and fun sound effects, expanded teacher management features, and handy help features. This program is perfect for the one computer classroom. Current titles include *Kids & the Environment, On the Playground,* and *Taking Responsibility.*

Choosing a Career That's Right for You **(Finding Your Way in the Working World Series) by Bergwall Productions, Inc. (Video, CD-ROM)**

This presentation, one of a series on career development, investigates the career development process. Segments (a) delineate the difference between wants and needs; (b) detail how lifestyle influences career choices; (c) explore career choices based on interest; (d) show how values, abilities, attitude, and personality affect career choice; and (e) list sources for obtaining career information. Interviews, demonstrations, and examples delineate the importance of work in our society, promote the transition from school to work, and facilitate the integration of school to career, history, social science, and guidance.

Circulatory and Respiratory Systems **(Human Body Series) by National Geographic Society (Video)**

This presentation uses advances in medical and biological photography and imaging systems to explore the complexities of the circulatory and respiratory systems. Sequences show how the heart muscle controls the circulatory system and makes activity possible; illustrate the heart, blood, and blood vessel transportation network; describe the valves and heart chamber; and follow the movement of red and white cells through arteries and capillaries. Episodes (1) depict respiration in the lungs with a red blood cell squeezing through a thin capillary wall inside the alveoli where carbon dioxide is exchanged for oxygen; (2) investigate what happens when a vessel ruptures, and (3) capture a white blood cell as it seeks, attacks, and consumes invading bacteria.

Civil War **(American Journey Series) by Primary Source Media (CD-ROM)**

This reference and research program provides primary sources hyperlinked to an electronic encyclopedia. Students (a) identify time periods and historical figures, (b) examine primary source documents, (c) export text and pictures to their own multimedia projects, (d) research and report on the Civil War and its ramifications, (e) link individual topics to additional sources, and (f) discover and use search techniques. This production encourages an appreciation of the value of primary sources in the study of history.

Classification: Bringing Order to Diversity **(Biology Essentials Series) by United Learning (Video)**

This program explains the ways scientists organize and categorize the great diversity of living things. Segments present a survey of the five kingdoms, explore how scientists bring order to diversity, examine how structural differences are used to classify species, explain how various kingdoms differ at the cellular level, and investigate the unique characteristics of living organisms. Visual imagery, titles, written vocabulary, and real life examples ensure comprehension of this classification system. This video supports the concept that evolution contributes to diversity.

Classifying Plants and Animals **(PictureShow CD Collection) by National Geographic Society (CD-ROM)**

Meet lionfish, lily pads, legless lizards, polar bears, and many other life-forms and learn how they are categorized. These lively presentations walk students through the classification process and present information in a fast-paced, high-impact, and easy-to-understand format.

Colonial America: Life in Maturing Colonies **(Colonial and Founding Period Series) by Encyclopedia Britannica Educational Corporation (Video)**

This presentation marks the beginning of the American nation in the period 1690-1764. Sequences compare and contrast life in Massachusetts, Pennsylvania, and Virginia, describing various occupations and religious and ethnic backgrounds. It explains how, despite their differences, colonists developed political and military skills which would later help to form one independent nation. Segments review the change in motives for immigration, the shift from agriculture to manufacturing as towns grew and land became scarce, and the attitudes toward Native American and African slaves in the different colonies.

Contemporary Authors on CD **by Gale Group (CD-ROM).**

This CD-ROM has a database of 100,000 writers, the equivalent of searching though 100 print volumes of *Contemporary Authors*. Simple searches can be done by author, title, subject, genre, or personal data. The personal data search allows searching by birth year, birth place, death year, nationality, education, politics, religion, honors/awards, interests, and other categories. More advanced searches can be done by using words, phrases, and Boolean operators. It is easy and quick to "jump to" different sections of each article. The information can be printed or saved to a disk.

Continents Adrift **by Rainbow Educational Media, Inc. (Video)**

This production introduces the concepts of continental drift and plate tectonics. Segments (a) name the earth's interior layers; (b) discuss the cause of plate movement, the concept of sea-floor spreading, and the three types of plate boundaries; (c) identify the location and importance of the mid-ocean ridge; (d) examine the cause of earthquakes, volcanoes, and mountain building; (e) explain the nature of seismic waves; (f) note the location of hot spot volcanoes; and (g) show what the world looked like in the past and how it may look in the future. Archival footage, narration by experts, demonstrations, charts, and graphs convey complex concepts and stimulate interest in geology and geography.

Co:Writer **by Don Johnston, Inc. (CD-ROM).**

This writing assistant has intelligent word prediction that helps struggling students build and write complete and correct sentences. It reduces the number of keystrokes needed to produce a word or sentence, so students aren't frustrated by writing. *Co:Writer* makes the writing process easier, faster, and even better for struggling writers in all grades.

Cranberry Thanksgiving **(Cranberry Holidays Series) by Spoken Arts (Video)**

This program presents one of the holiday books by Wende and Harry Devlin. The story, set on the edge of a cranberry bog, features Maggie, her grandmother, and their friend Mr. Whiskers. The detailed drawings of the small New England community come from Harry Devlin's knowledge of 19th century American domestic architecture. The suspenseful adventures end with an authentic regional cranberry recipe. The production provides opportunity to integrate literature and social sciences. The presentation encourages reading at holiday time and showcases award-winning authors and illustrators.

Creepy, Crawly Creatures in Your Backyard **(Unlovables Series) by National Geographic Society (Video)**

This production introduces some of nature's strange and unusual animals. Segments (a) identify backyard creatures and tell what makes each one unlovable, (b) describe interesting or appealing characteristics of the animals, (c) explain how animals adapt to survive, (d) illustrate how animals fit into nature's scheme, (e) reveal where and how animals build their homes, and (f) highlight how they take care of their young. Songs and entertaining character voices make these commonplace animals fun and familiar. The program fosters an appreciation for nature, encourages further study, and facilitates the integration of science, social sciences, and language arts.

Decisions, Decisions 5.0 **by Tom Snyder Productions (CD-ROM)**

With each title in the *Decisions, Decisions* series, students role-play a decisionmaker faced with a critical situation drawn from your history or contemporary issues curriculum. As presidents, feudal lords, mayors, or independence leaders, students use a proven five-step model for critical thinking and decision making to gather and review information, discuss options, and take action. There are currently 15 titles to choose from: *Ancient Empires; Building a Nation; Campaign Trail; The Cold War; Colonization; The Constitution; The Environment; Feudal-*

ism; Immigration; Lying, Cheating, Stealing; Prejudice; Revolutionary Wars; Substance Abuse; Town Government; and *Violence in the Media.*

***DINE Healthy* by DINE Systems, Inc. (CD-ROM, Floppy Disk)**

This program provides instruction in good nutritional habits and exercise routines. It exposes poor nutritional and fitness behaviors through its analysis of daily food intake and physical activity. The software serves as the student's personal trainer for fitness and nutrition. It is especially effective for students who desire a reduction in body fat, cholesterol level, and blood pressure.

***Diorama Designer* by Tom Snyder Productions (CD-ROM)**

This powerful tool allows students to design original dioramas on the computer and then print and assemble them. Students can choose from hundreds of historically accurate architectural elements and furnishings to create 3-D dioramas of building interiors from different time periods. *Diorama Designer* includes doors, windows, furniture, stairwells, fireplaces, wall coverings, people, household items, and more. It also includes 3-D people, animals, and furniture that can be printed separately and placed inside dioramas. Historical styles include Medieval, Native American, Colonial American, and Contemporary American.

***Discovering Image Processing*, Center for Image Processing in Education (CD-ROM)**

This software teaches the fundamental concepts of digital image processing and image analysis. In a series of 10 step-by-step lessons, high school students learn to manipulate, analyze, and create digital images and animations as they explore practical applications of science, math, and technology concepts. Students build skills while working with a cutting-edge research tool developed by the National Institutes of Health with funding from the National Science Foundation. Each lesson is designed to increase student enthusiasm, encourage creativity, and enhance open-ended inquiry. Students work with authentic data using images drawn from real-world sources, including earth and space science, physics, biology, and mathematics. *Discovering Image Processing* contains more than 300 images and 17 animations. An accompanying guidebook contains all lessons, extensive teaching notes, student data sheets, installation instructions, and support services information.

***Discover the World II: Age of Exploration* by ENTREX Software, Inc. (CD-ROM)**

This simulation provides 20 quests or challenges that circle the globe and involve obstacles that confronted explorers in the 15th and 16th centuries. The user encounters pirates; weather, scurvy, trade, and hunting challenges; as well as new animals, plants, and languages on different continents. Students consult maps and a database to help them make the decisions required to complete the challenges.

***DISCovering Multicultural America* by Gale Group (CD-ROM)**

This is a reference source for information on significant people, places, documents, organizations, events, and issues concerning African Americans, Asian Americans, Hispanic Americans, and Native Americans. It can help students find fast answers to many multicultural questions. Having the ethnic groups identified as each topic area appears is useful.

***Discovering Natural Pattern* (Nature's Way Series) by AIMS Multimedia (Video)**

This environmental production examines patterns in the natural world. Segments highlight the simple line formations and geometric figures found in living things, explain how to distinguish one living thing from another, and reinforce the uniqueness of each species. Sequences show how to classify living things according to pattern and illustrate how to graph data following observations. Viewers increase their understandings of the natural world through the discovery of natural patterns, and practice listening and observation skills. The program stimulates curiosity, promotes critical thinking, supports a hands-on discovery approach, and facilitates the integration of science, mathematics, language arts, and art.

***Earth's Endangered Environments* (NGS Picture Show Series) by National Geographic Society (CD-ROM)**

This program is designed to help students to discover basic science concepts through multimedia presentations. Two videos on the rain forests and wetlands provide detailed information about their ecosystems and the problems confronting them. Music, viewing options, voice narration, and visuals provide content in a visually pleasing manner that

captures and retains viewer interest and motivation. The program is largely non-interactive, but does a good job of providing information and data through the videos.

***Electric Current* (Science Court Series) by Tom Snyder Productions (CD-ROM)**

See "Science Court."

***Exploring Our Solar System* by National Geographic Society (Video)**

This production describes a journey from the center of the solar system to its outer limits. Sequences begin with the sun and progress to each of the planets including the earth and its moon. Segments display computer-enhanced images from NASA as well as specially commissioned animation from recent information, including that obtained during Voyager's flyby of Neptune in 1989. Episodes explore the mystery of creation of the solar system an estimated four and a half billion years ago, travel to the distant Oort cloud where comets are found in great numbers, and present astronomers from the Kitt Peak National Observatory who explain the use of the modern technology. This presentation introduces Clyde Tombaugh, who describes his research that led to the discovery of Pluto.ecosystems and the problems confronting them. Music, viewing options, voice narration, and visuals provide content in a visually pleasing manner that captures and retains viewer interest and motivation. The program is largely non-interactive, but does a good job of providing information and data through the videos.

***Eyewitness Encyclopedia of Nature 2.0* by DK Interactive Learning (CD-ROM)**

This comprehensive multimedia library offers students access to videos, animation, and in-depth articles about hundreds of animals, habitats, plants, and microorganisms. Browse functions allow students to navigate easily through the encyclopedia. Web links are included to download current information. Students can access the material by utilizing video and audio clips as well as printed text. Vocabulary has been highlighted and defined. Navigation of the program is simple and consistent. A help tutorial is included as well as a "back tracker" feature.

***Eyewitness Encyclopedia of Space and the Universe* by DK Interactive Learning (CD-ROM)**

This CD-ROM contains a comprehensive program about space science. Students (a) discover historical scientists, planets, and constellations of the night sky, and the birth and structure of the universe; (b) examine models of the shuttle, the Hubbell Telescope, satellites, probes, and other craft; (c) study the solar system; (d) follow the work of astronauts; (e) observe such phenomena as volcanoes on Venus, black holes, and birth of a star; (f) participate in two interactive activities; (g) visit an interactive virtual observatory; and (h) manipulate the night sky to view a specific date and time. The program content is compatible with a wide range of recommended instructional materials.

***Field Trip to the Sky* by Sunburst Communications (CD-ROM)**

This CD-ROM lets students explore the mystery of the solar system through simulated field trips in space, interactive sun and moon labs, NASA video, and animation. Students (a) search a multimedia encyclopedia and visual database, (b) explore such events as man walking on the moon through QuickTime videos and photographs, (c) study the extensive library of audio and visual text and video information on the solar system, (d) discover the "big picture" in the sun and moon labs, and (e) develop information for reports. This program, appropriate for English language learners, can be used as a reference tool or as a space sciences text.

***Fitness and Conditioning: Benefits for a Lifetime* by Human Relations Media (Video)**

This production examines the importance of fitness to physical and mental well-being. Segments (a) define fitness according to the President's Council on Physical Fitness, (b) describe four considerations for goal setting, (c) discuss the four parts of fitness, (d) demonstrate techniques for conditioning, (e) explore the relationship of aerobic exercise to percentage of body fat, (f) illustrate muscular strength and endurance, (g) explain the purpose for different kinds of weight lifting, and (h) stress the importance of flexibility. The program provides opportunity to discuss weight control, self-esteem, and life style; encourages leisure time activities; and facilitates the integration of home economics, health, and science.

***5 A Day Adventures* by Dole Food Company, Inc. (CD-ROM)**

This CD-ROM is the first nutrition edutainment software designed to encourage children to eat five servings of fruits and vegetables every day, as recommended by leading health authorities. It

includes songs, characters, activities, and games involving fruits and vegetables. A companion Web site at http://www.dole5aday.com provides information for ordering this product. The *5 A Day Adventures* CD-ROM is available at no cost to all schools. Requests must be on school letterhead and include teacher's name, school address, and phone number. Mail or fax requests to Dole Nutrition Program, 155 Bovet Road, Suite 476, San Mateo, CA 94402. Fax: 650-570-5250.

***500 Nations* by Microsoft Corporation (CD-ROM)**

This is a multimedia exploration of the thousand-year history of 26 Native American tribes or peoples. It explores the legends of creation, the nations in pre-European times, and the impact of European settlers upon their cultures. There are words of great leaders from the past and of present-day leaders who are struggling to maintain the culture and heritage of their people. The program is historically accurate and contains excellent graphics and time lines.

***Geography Search* by Tom Snyder Productions (CD-ROM)**

In this simulation of early celestial navigation, students set sail on a quest to the New World to find an uncharted island and return with gold. As sailors, they must monitor weather, wind speed and direction, water depth, food, and latitude and longitude to guide their ship through unchartered waters. After the data are supplied by the computer, student groups use their records away from the computer to decipher and plot courses. They then enter these courses on the computer and receive new data until their ship reaches the New World and returns. Success depends on each group member contributing expertise according to role. Teamwork, problem solving, analyzing, and planning are all required in this process. It is not a program for independent study and needs to be integrated into class instruction.

***Geology and Meteorology* by McGraw-Hill School Division (Computer-Interactive Videodisc)**

This interactive production investigates volcanoes, earthquakes, and severe storms. Segments examine an active volcano, discuss the formation of mountains and rocks, illustrate plate tectonics, describe storms and their causes, compare tornadoes and hurricanes, and detail the work of meteorologists. Lessons encourage independent and group study. The program promotes critical thinking and facilitates integration of science, social sciences, career education, and language arts.

***GeoSafari Animals* by Educational Insights (CD-ROM)**

Fill your classroom with whales, reptiles, and animals from around the world. Students compete in 15 exciting activities, follow animal tracks, scan microscope specimens, identify "calls of the wild," and answer hundreds of challenging questions. Includes a Player's Guide with hints and instructions, plus 30 activity pages where students apply information they have learned in the activities to solve puzzles, test memory, and identify maps.

***Glitter* (Sex, Drugs, and the Media Series) by Human Relations Media (Video)**

This documentary examines the role and influence of the media and the values and messages in advertising. Segments explain the difference between "information" and "influence"; identify ways that movies, advertisement, and music videos manipulate the viewer; encourage students to be active consumers and to question media messages; and reinforce that media images are often sexist. The presentation encourages students to examine media critically, promotes information literacy, and facilitates the integration of health and guidance, consumer education, mathematics, history-social sciences, and English-language arts.

***GLOBE Program* (The Online Learning Experience) by NASA Ames Research Center and the National Oceanic and Atmospheric Association (NOAA)**

Students make a core set of environmental observations (such as air temperature, precipitation amount, etc.) at daily, weekly, and seasonal intervals near their schools and report their data via the Internet. Scientists use GLOBE data and communicate their findings to students. Each day, images created from the student data sets are posted on the World Wide Web, allowing students and visitors to visualize the student environment observations.

***Graph Club* by Tom Snyder Productions (CD-ROM)**

Twenty ready-to-use activities provide students with the opportunity to read, write, create, and interpret picture graphs, bar graphs, pie graphs, and line graphs in a cooperative learning setting. Students

conduct surveys, compile data, display results, and solve topical problems. An "explore" mode allows students to see how the same data can be represented differently; a "match" mode challenges students to create different types of graphs; and the "create" mode enables students to work with numbers to create their own graphs. Printing is possible in a variety of formats. Users can enter 200 items in a graph.

Greece: Dimitris and His Bees **(My Animal and Me Series) by New Dimension Media (Video)**

This presentation, one of a series about friendships between children and their pets, features the story of a Greek boy and his family. Segments (a) examine the relationship between geography and the way people live, (b) describe beekeeping, (c) examine the use of honey, (d) explore the climate and terrain, (e) compare Greece with other European countries, and (f) identify the various bees and their function in the hive. Narration, story line, and photography highlight the diversity of cultures on our planet. The program stimulates critical thinking, encourages further study, and supports the integration of language arts, world history, life science, and geography.

Health Quest—Your Health is Your Destiny **by Forest Technologies (CD-ROM)**

Welcome to Germicide Park, your home for a one-hour adventure. While in the park, your goal is to maintain the best health possible while fighting off the many germs that will attempt to infect you. Make the best choices at the park eateries and exercise facilities to improve your health. You will also identify different germs, the body parts they infect, and the right form of treatment. An extensive database covers food groups, medications, diseases, systems, and organs.

Hiawatha **by Weston Woods Studios (Video)**

This production presents the portion of Longfellow's poem "The Song of Hiawatha" that tells of his childhood. The poem is in its original form and is illustrated by Susan Jeffers. Segments (a) detail the content of Indian life, (b) highlight cultural and family values, (c) describe the background that led Longfellow to write the poem, (d) outline some Native American history prior to 1855, (e) depict the world of Native Americans in explicit illustrations, (f) present the sound of a tone poem, (g) show how legends are preserved. This program supports third-, fifth-, and eighth-grade history and social science curricula in its descriptions of Native American culture and legends.

Holocaust: A Teenager's Experience **by United Learning (Video)**

This documentary tells the first person story of David Bergman and his internment in the Nazi camps. Segments (a) describe the Holocaust and how six million Jews and five million Christians were murdered by the Nazis, (b) emphasize the importance of determination and the will to survive, (c) stress the importance of preventing a repeat of such a catastrophic event, (d) reinforce why freedom must never be taken for granted, and (e) chronicle the 14 months that Bergman spent in concentration camps. This program promotes discussion of human rights, celebrates the survival of a teen, and facilitates the integration of social sciences and language arts.

How Beliefs and Values Define a Culture **(How to Study Cultures Series) by United Learning (Video)**

This program explores various cultures of the world. Segments (a) introduce a variety of ancient and new world cultures, (b) depict religious aspects of various cultures, (c) demonstrate how historical events shape culture, (d) explain how the beliefs and values of members influence the culture, and (e) describe the effects of natural resources on cultures. This program provides an overview of how beliefs and values define a culture and facilitates cross-cultural interactions.

How the Forest Works **(Amazonia Series) by Public Media, Inc. (Video)**

This documentary provides an in-depth look at the rain forest and the cycles and systems that support it. Segments (a) examine the rain forest; (b) emphasize the importance of this ecosystem; (c) present a well-integrated geography and science unit; (d) explore the connection between systems that are dependent on each other; (e) identify the biodiversity of the rain forest; and (f) feature animation, photography, graphics, and narration. This production facilitates the integration of biology, physical science, and geography.

How to Make an Apple Pie and See the World **(Reading Rainbow Series) by Great Plains National Instructional Television (Video)**

The featured book, written by Marjorie Priceman and narrated by Helen Mirren, tells the story of how

a girl learns about geography as she gathers the ingredients for her pie. Viewers visit LeVar Burton in his kitchen where he gets cooking tips from chef Curtis Aikens, who uses science to unravel some of the tricks and reasoning behind everyday cooking. Children review *The Kid's Around the World Cookbook* by Deri Robins, *What Food Is This?* by Rosmarie Hausherr, and *The Edible Pyramid: Good Eating Every Day* by Loreen Leedy. The program encourages students to read good books and to utilize their public libraries, promotes high level thinking, and facilitates the integration of language arts, health, science, history, and social science.

In My Own Voice **by Sunburst Communications (CD-ROM)**

This program combines sophisticated language with visual and musical resources designed to inspire students to write poetry. Nine contemporary poets read their work aloud and give a personal introduction to their poetry. The focus is on a variety of cultural perspectives and on questions of background and personhood. Art and music for each poem were chosen to enhance the mood and inspire the students. A "word generator" is included as a poetry inspiration.

In the Holy Land **(Understanding Our World Series) by Optical Data Corporation (Computer-Interactive Videodisc)**

This interactive production examines the 4000-year history of the Holy Land. Side one reviews the religious, geographic, historic, and political images and events; compares Middle East cities with cities in the United States; and analyzes significant events. Side two concentrates on contemporary issues related to Intifadah, discusses the creation of Palestine, and identifies leaders. Ted Koppel, ABC news anchor, provides explanations and poses critical questions. Interviews with Palestinian and Israeli children add a human dimension. The disc is narrated in English and Spanish. The program encourages further study and facilitates integration of social sciences and language arts.

India and China **(PictureShow CD Collection) by National Geographic Society (CD-ROM)**

Investigate the ancient Indus Valley civilization, the Aryans, the rise of Hinduism and Buddhism, King Ashoka, and the Mauryan Dynasty. Continue your travels to China and examine China's achievements in art, technology, and government. Learn more about its contributions to religion and philosophy. The NGS PictureShow CD Collection will bring excitement, interactivity, and flexibility into your classroom. View the shows as presented or advance at your own pace. Students can produce customized reports by copying and pasting text and photos to create new coursework or tailored presentations. Over 50 titles are available.

Inspiration **by Inspiration Software, Inc. (CD-ROM)**

This program provides a flexible tool for brainstorming ideas, creating diagrams, concept mapping, outlining, and prewriting. Students can create a flowchart and the program will convert their work into a text outline (or vice versa). Students with a wide range of abilities find the program easy to use. Templates provided with the program help users learn to use it successfully. The Print-to-Fit option automatically sizes all flowcharts to fit an 8-1/2 x 11 page.

Johnny Tremain **by Disney Educational Productions (Video)**

This production tells the story of Johnny Tremain, a fictional character of the Revolutionary War period. The novel by Ester Forbes describes a young apprentice silversmith in Boston whose life adversities draw him into close association with the Sons of Liberty. Segments (a) describe the roles Paul Revere, Dr. Joseph Warren, and others played in the Boston Tea Party and events leading to the Battle of Lexington; (b) portray the emotions of people on both sides of the conflict; (c) identify the consequences of the actions of the Sons of Liberty; (d) challenge the concept that Americans were entirely right and the British were entirely wrong; and (e) emphasize the importance of the true meaning of liberty and human rights. This production uses historical fiction to explore the reasons why the Sons of Liberty rebelled against King George and the British Parliament. It facilitates the integration of language arts, history, and social science.

JumpStart PreK-Third Grade **by Knowledge Adventure, Inc. (CD-ROM)**

These programs encourage young users to explore and learn by providing a rich visual and audio environment. For each grade level there are colorful games and puzzles for cross-curricular activities in reading, math, language arts, science, art, and social science. The program automatically tracks the

student's successes and adjusts the learning level of each activity so that the student is challenged but not frustrated. A printable, on-line progress report provides a detailed record of the child's progress in the various activities in the program: up to 99 student records can be stored.

***Kid Pix Activity Kits* by Teacher Created Materials and The Learning Company (CD-ROM)**

Teacher Created Materials and The Learning Company have combined the Kid Pix tools with popular thematic units. Titles include *Creepy Crawlies, Fairy Tales, Seasons, Rocks & Soil, Community Workers, My Country, Native Americans, Animals, Sea Animals, My Body, Plants,* and *Weather.* Each kit's CD includes everything students need to create exciting multimedia projects. Oral instructions accompany each activity scene, providing guidance to students as they work. The projects are great for promoting literacy since students can ask the computer to read what is typed, or they can record their own voices to accompany their pictures.

***Kid Pix Studio* by Broderbund Software, Inc. (CD-ROM).**

This software adds multimedia opportunities to the creative drawing elements of previous Kid Pix programs. Students can create productions that combine animation, video clips, background photographs, sound effects, and music. Skills such as writing, drawing, and organizing are presented within a context of meaningful experiences. The program is very multicultural in the music it offers, the pictures of people it shows, and the art available.

***Kids Works Deluxe* by Knowledge Adventure, Inc. (CD-ROM)**

This student creativity tool combines word processing, drawing and painting tools, talking text, music, and animations. It is easy to use. Students type in the text and draw their pictures. The program will read the text back to them in their own or other voices. A picture dictionary allows the students to choose from pictures categorized as nouns, adjectives, and verbs. When a picture is added to the writing, the printed word is given with a click on the picture. Art work from other programs can be imported. The program helps students make connections between words and pictures, developing the link between writing and reading. The *Kid Works 2* version lacks the animation features. *Kid Works 2 Bilingual* is in Spanish and English.

***Kids Media Magic* by Humanities Software, Inc. (CD-ROM)**

This word processor for young children provides rebus, clip art, photos, movies, sounds, paint feature, and publishing options. Over 300 vocabulary words are available. A rebus anticipator runs along the bottom of the writing screen. More than 300 words are illustrated and can be inserted in the text. The word processor allows students to format text and pictures. There also is a spell checker, a thesaurus, and find and replace. Teachers can create activities and attach notes to students' work in the program. The program prints only in landscape mode, and there is no print preview available.

***Latitude and Longitude* by National Geographic Society (Video, Videodisc)**

In this presentation, host Mike Dun examines the development and use of latitude, longitude, and navigational systems. Segments (a) illustrate how to determine location on a map or globe; (b) identify the equator, tropics of Cancer and Capricorn, prime meridian, and the date line; (c) summarize the historical development of the latitude and longitude grid system; (d) describe past and present navigational systems; and (e) discuss the effect of latitude on global heat distribution. Viewers travel to Greenwich, England, learn about early Polynesian navigation, and sail across the Atlantic Ocean. This program encourages critical thinking and facilitates integration of science, mathematics, and social sciences.

***Learn About Insects* by Sunburst Communications (CD-ROM)**

This program is designed to introduce students to insects. It covers insect parts, insect food, a simple introduction to a food chain, metamorphosis, and insect homes. Students create their own imaginary insects and insect homes. They can write about their imaginary insects and print the stories. Students at varied reading levels can enjoy this program. The interesting content and excellent graphics engage students' interest. The program works well as an activity for the entire class, and it would be an excellent supplementary activity for a unit on insects. It would not be appropriate as a stand-alone program.

***Lewis and Clark* (Landmarks of Westward Expansion Series) by Agency for Instructional Technology (Video)**

This production investigates the Lewis and Clark expedition and its importance to westward expansion. Segments review the Louisiana Purchase, explain the role of Thomas Jefferson, and identify the tasks Lewis and Clark were to perform on this exploration. Sequences describe Fort Clatsop, investigate what life was like in the home base, and outline the support provided by Indians. This program provides the opportunity to contrast the role of Indians during the exploration period with that of the settlement period, promotes discussion about how women contributed to the development of this country, and facilitates integration of ethnic studies, language arts, and social sciences.

***Liang and the Magic Paintbrush* (Reading Rainbow Series) by Great Plains National Instructional Television (Video)**

This story by Demi is a retelling of an old Chinese legend. In it, a boy finds a magic paintbrush that brings everything he paints to life. This legend seems to come to life as a computer magically creates the latest in technological art. Host LeVar Burton explores the richness of Chinese-American culture in New York City's Chinatown and encounters the famous lion dancers. The presentation design promotes using short segments during any one class session.

***Living Things* (Science Court Series) by Tom Snyder Productions (CD-ROM)**

See "Science Court."

***Logical Journey of the Zoombinis* by Broderbund Software, Inc. (CD-ROM)**

The Zoombinis are migrating to a new home. Students help them make the journey safely and practice critical thinking skills en route. Zoombini creatures have varying attributes of hair style, nose color, eyes, and feet. There are 12 puzzle levels, each with four levels of difficulty, based on the variations in Zoombini attributes. The puzzles are open-ended, with many possible paths to a solution. They are designed to encourage creative thinking as students explore hypothesis formations, set theory, graphing, organization, pattern finding, using statistics, and comparison of attributes.

***Magic Box* (Legends of the Indians Series) by Films for the Humanities & Science, Inc. (Video)**

This Iroquois Indian legend teaches a youth that true love does not require a test. Segments establish the primary characters, create the conflict, and weave a tale of suspense to explain natural phenomena. Sequences detail sibling rivalry, promote honesty and truth, and invoke magic to dispense with evil. Native Americans perform this legend to remember who they are and what they believe. The presentation provides the opportunity to compare and contrast Native American legends with folktales from other cultural groups, encourages the study of Native American culture, and reinforces the importance of cultural heritage. The program includes examples of another language and its translation, and facilitates the integration of social sciences, language arts, and guidance.

***Mapmaker's Toolkit* by Tom Snyder Productions (CD-ROM).**

This program offers an easy way to select, customize, and print world, continent, country, and state maps. It contains a vast library of present-day and historical maps. Students can customize their maps with built-in layers, drawing tools, and hundreds of map symbols. Maps can be printed in single- or multiple-page formats, or added to any Web page.

***Marketplace Ethic: Issues in Sales and Marketing* (Ethics at Work Series) by Barr Films (Video)**

In this production, scenarios depict ethics issues and conflicts likely to arise in a commercial sales and marketing environment. Segments (a) address gathering and using competitor intelligence, hiring their employees, soliciting information for customers, and responding to unscrupulous competitors; (b) examine deceptive advertising, and the misallocation of advertising and promotion budgets; (c) outline dealing with distributors, conflicts of interest, and whistle blowing; and (d) note other ethical compliance issues facing marketers. The production provides orientation for new employees, supplements existing training and development programs, and offers realistic scenarios for applied ethics courses.

***Math Blaster Algebra* by Knowledge Adventure, Inc. (CD-ROM)**

Students on the Math Blaster space ship must use algebra skills to repair and defend their ship. Use,

practice, and reinforcement are offered on basic pre-algebra and algebra I skills. Students (a) demonstrate proficiency in the required skills; (b) work together, hypothesize, and investigate different ways to repair the ship; (c) review and gain insight into how to work problems efficiently; (d) choose from novice, advanced, and expert levels of difficulty; (e) explore topics presented in five different areas; and (f) review skills in the strategy room for overall skills practice. This simulation allows students to explore algebraic concepts at their own pace.

***MathPad* by Intellitools (CD-ROM)**

This program gives learners with visual, auditory, and physical challenges a means to solve math problems with technology. Students (a) work math problems without the need of paper and pencil; (b) solve math problems with minimal keystrokes, movements, or prompting; (c) experience inclusion; (d) listen to questions and work together with their classmates in a computer lab; (e) access problems customized by appearance and type; and (f) discover auditory prompts for numbers.

***Mediation: Getting to Win-Win!* by Sunburst Communications-Video (Video)**

This program shows conflict and school-based mediation processes with trained student peer mediators. Segments dramatize typical high school conflicts based on rumor and gossip, demonstrate the value of school-based student peer mediation programs, explain alternatives to violence, and feature problem solving techniques and the acknowledgment of feelings in the mediation process. This video supports training in conflict mediation, school safety, and individual responsibility.

***Milk: From Farm to Table* by AIMS Multimedia (Video)**

This program presents a detailed, behind-the-scenes look at how milk is produced at a modern dairy. Segments (a) describe dairy farms; (b) identify the newborn, adult female, and adult male cattle; (c) illustrate the process that takes place in a milking parlor; (d) discuss what and how much cows eat and how much milk they produce; and (e) explain how raw milk is pasteurized and homogenized. The production highlights human dependence on animals; fosters an appreciation for dairy farmers; and facilitates the integration of science, social sciences, and health.

***Mirror Symmetry* by Tenth Planet (CD-ROM)**

This program, one of six in a series on geometry, presents mathematics-based investigations designed to introduce students to the beauty of symmetry found in nature and in cultures throughout the world. Multimedia and hands-on activities are combined with examples from culture, art, architecture, and nature. Students are asked to examine symmetrical objects and to use symmetry to create kites and African masks. Students can find mirror images in the world around them and record these in their personal journals. A glossary of shapes and words is part of the program.

***Multimedia Workshop* by Knowledge Adventure, Inc. (CD-ROM)**

This program provides a rich environment for planning, developing, and producing a large array of print and computer-based products by using a writing, paint, or video workshop. All stimulate the imagination and foster creativity. There are multiple pathways to successful presentations that incorporate a mid-level word processing program with an easy-to-use multimedia presentation program. Program features include tutorials, a multimedia library, spell checker, thesaurus, on-line templates, graphic organizers and planning forms, and classroom resource guide with project activities. The program is complex to learn and does not contain many of the features found in a dedicated word processor or multimedia presentation program.

***My First Amazing History Explorer* by DK Interactive Learning (CD-ROM)**

This interactive program explores past times of different historical worlds. Students (a) compare life today with that of past times, (b) discover how to read and analyze a time line, (c) study inventions from ancient civilizations, (d) compile a journal, (e) examine how people lived in ancient times, (f) participate in games and activities on historical themes, (g) search the glossary for word meanings, and (h) track a map thief through various historical locations. This production facilitates the integration of history, social science, visual arts, and English-language arts.

***Myths and Legends of Ancient Greece* by United Learning (Video)**

This production opens with the legend of Daedalus and Icarus, continues with the story of Pandora's Box, and concludes with the account of Jason and

the Golden Fleece. Segments highlight the plots, discuss cultural aspects of the stories, and identify the themes. Episodes describe the historical, cultural, religious, and psychological aspects of the stories. This program fosters an appreciation for good literature, encourages further study, and facilitates the integration of social sciences, language arts, and fine arts.

***Native Americans: People of the Plains* by Rainbow Educational Media, Inc. (Video)**

This production examines the culture and history of the Native Americans of the Plains, with a focus on the early 1800s. Segments (a) review the origin of Native Americans; (b) discuss the natural environment of the plains; (c) identify the various tribes; (d) demonstrate how the people constructed their tepees; (e) show how they made tools, weapons, and clothing; (f) describe the hunting and cooking of food; (g) illustrate some of the games played by the children; and (h) explain the Plains view of the natural world, religion, and the role of medicine men. The program facilitates the integration of social sciences and language arts.

***Nighttime Animals* (Amazing Animals Series) by DK Vision (Video)**

This production examines nocturnal animals through the use of animation and live animals. Segments (a) define nocturnal and diurnal animals; (b) emphasize the importance of nocturnal animals in relation to the environment and food chain; (c) examine the connection between lunar phases and animal behavior; (d) describe a variety of nocturnal animals and how they relate to each other; and (e) feature animation, documentaries, primary source material, vignettes, and humor. This program encourages an appreciation of the components of an ecosystem.

***1929-1941: The Great Depression* by National Geographic Society (Video)**

This black-and-white documentary examines events and experiences of the Great Depression through archival film footage. Segments depict the lifestyle of the consumer society of the 1920s, identify weaknesses in the U.S. economy, and discuss stock market speculation and banking practices. Sequences describe regulatory acts and their impact on the economy, delineate new programs that shaped the society, and compare and contrast the role of government before and after the Great Depression. Viewers follow the prosperity of the 20s, the declining demand for consumer goods, the farming crisis, and the failure of banks. The program facilitates the integration of social sciences, fine arts, and language arts.

***NIH Image* (Macintosh). NIH Image. *Scion Image* (Windows 95). Scion Corporation.**

Image Processing (IP) is the analysis and manipulation of pictures on a computer screen. Using IP, details in a faded picture can be enhanced, diagnostic structures in a medical image labeled and measured, and regions of a satellite photograph categorized and quantified. Two image processing programs—*NIH Image* (Macintosh) and *Scion Image* (Windows 95)—have been used throughout the world by scientists for many years. These public domain tools are available from the *NIH Image* Web site and the *Scion Corporation* Web site. Both are also available from *The Center for Image Processing in Education* (CIPE) Web site. The Center promotes computer-aided visualization as a tool for teaching and learning. It also conducts workshops and develops instructional materials that use IP and other technologies as platforms for teaching about science, mathematics, and technology.

***Old MacDonald Had a Farm* by Sunburst Communications (CD-ROM)**

This interactive book supports early learning skills of speaking, listening, reading, and writing. Students (a) gain insight into farm life, (b) create farm life pictures in the paint program, (c) listen to the song and story of Old MacDonald, (d) write their own story about life on a farm, (e) observe video clips of farm animals, and (f) identify various farm animals and their babies. This program encourages an understanding of the concept of working together and of geographic awareness. The program includes a customizing option to support student needs.

***Oregon Trail* (The Old West Series) by Chip Taylor Communications (Video)**

This video tells of America's early settlers and their struggles as they trekked westward along the Oregon Trail. Segments (a) feature footage, stills, diaries, maps, and narrative; (b) explain how the trail was popularized by American myths; (c) utilize illustrations, photographs, cartoons, and on-location reenactments; (d) examine the reasons people migrated; (e) follow the trail from Missouri to the Pacific Ocean; and (f) look at the effect the settlers' use of the Oregon Trail had on the buffalo and on the Native American cultures. This program facilitates

the integration of history, social science, geography, economics, sociology, and ethnic studies.

***Oregon Trail II* by The Learning Company (CD-ROM)**

This is an expanded CD-ROM version of *Oregon Trail*. In this simulation of a trip in a covered wagon, students choose their level of difficulty, month and year of travel, starting and ending points, and route. Students make a series of simulated life-skill decisions in order to survive the trip. Along the way they encounter a variety of hazards such as disease, starvation, floods, and accidents, getting some idea of what it was truly like on the Oregon Trail. The program enables students to demonstrate knowledge gained through a study of the Westward Movement, and gives them an opportunity to think creatively and solve problems in an interesting fashion. This CD-ROM has enhanced graphics, full-motion video, digitized speech, original music, an on-line glossary, spoken guidebook, and an on-line journal.

***Outer Planets* (Revised) (Solar System Series) by Stanton Films (Video)**

This production examines the outer planets. Segments identify the planets, indicate their relative positions within the solar system, and give their respective sizes compared to the sun and earth. Sequences show how the outer planets differ from the inner planets, present up-to-date visual and scientific information from recent spacecraft cameras, and discuss the possibility of life on other planets. Episodes compare and contrast characteristics, satellites, and composition; review rotation and revolution cycles; and describe space exploration. The program encourages further study, stimulates critical thinking, and suggests topics for oral and written expression.

***Ox-Cart Man* (Reading Rainbow Series) by Great Plains National Instructional Television (Video)**

Lorne Green narrates this lyrical account of a 19th-century New England family's year. Host LeVar Burton visits Sturbridge Village, Massachusetts, a hands-on living museum where he discovers what life was like in the early 1800s. LeVar dons the traditional leather apron to forge iron with the blacksmith, barters for a hand-knitted pair of mittens, assists the printer, and watches baby oxen being trained. Books reviewed by students include *Round Trip* (Jonas) and *Wagon Wheels* (Brenner). The presentation design promotes using short segments during any one class session.

***Pecos Bill* by Harmony Interactive (CD-ROM)**

This program features several episodes in the folk-tale saga of Pecos Bill. Students enjoy learning about coyotes, rattlesnakes, round-ups, and lassos, as well as meeting colorful characters. Students may listen as text is read aloud with the phrases highlighted. Stories are read in two voice styles and speeds. Students may branch to vocabulary words and listen to original songs. Sound effects, pronunciations, and explanations are available. The package includes an audiotape of folk songs, a reading of the story, and printed sheet music.

***Peer Mediation in Action* by United Learning (Video)**

This program examines the issues that arise as a school's peer mediation program grows and matures. Conflicts involving race, sexual harassment, gangs, and teacher/student mediation issues are examined and discussed by trained peer mediators. Segments demonstrate effective ways to solve problems and conflicts, examine sources of conflicts in the school setting, depict several scenarios where problems are resolved, and outline ground rules for successful peer mediation. The presentation encourages students to take pride in their personal identity, promotes a safe school environment, and supports the school's mediation program.

***People Behind the Holidays* by National Geographic Society (CD-ROM)**

The program introduces people who helped shape America, including the Pilgrims, Martin Luther King, Jr., Christopher Columbus, Abraham Lincoln, and George Washington. The program can be customized by teachers so students can follow along as the text is read in English. The length of the pauses between phrases can be adjusted to match the listening ability of the reader. Students can click on an individual word or on an item in the picture, get a label for a picture, and then hear the pronunciation and/or get a explanation of the word either in English or Spanish. Each student's place and customized settings can be stored as an individual file on the hard drive.

***Print Shop PressWriter (The)* by The Learning Company (CD-ROM)**

This program gives students all the tools they need to practice essential information, organization, writing, and publishing skills by creating writing projects. A bonus CD provides templates for all 30 activities.

***Protozoa Systems* by EME Corporation (CD-ROM)**

This program enables students to investigate three single-cell organisms. Students (a) investigate movement, respiration, reproduction, and digestion of protozoa; (b) explore the life systems of the Amoeba, Euglena, and Paramecium; (c) compare and contrast three simple life forms; (d) evaluate their understanding of the material through on-line quizzes; and (e) access video and written text. This production encourages an appreciation of the single-cell organisms.

***Rainforest Researchers* by Tom Snyder Productions (CD-ROM)**

Students working in investigative teams assume the roles of scientists in the rain forest. Teams use reference books with background about rain forest fauna and research results to probe the Indonesian rain forest for clues to solve two biological mysteries. On-screen instructions successfully guide students through separate learning tours to examine the evidence. This well-integrated package utilizes video, CD-ROM, and cooperative group techniques to create a quality learning experience that crosses science and social science curricula.

***Reader Rabbit's Reading Development Library, Levels 3 and 4* by The Learning Company (CD-ROM)**

This interactive storybook includes four classic tales: The Princess and the Pea, The Goose That Laid the Golden Egg, King Midas, and The Ugly Duckling. Students may choose one of three storytellers to read the story to them, read independently, or read together with a storyteller. One storyteller narrates the classic version; the other two storytellers each take on the role of characters in the story. Animation, sound, and specific word helps are available. Three games allow students to test their vocabulary understanding, story comprehension, and their ability to create endings to letters written by story characters. Story concepts, pace, grammar, and vocabulary increase in difficulty as students move through the levels.

***Red Riding Hood* by Weston Woods Studios (Video)**

This animated production based on the book by James Marshall tells the classic tale of the wolf, Granny, woodcutter, and Red Riding Hood. Segments stress the importance of not speaking with strangers, reinforce the importance of observing and thinking carefully before acting, and explore ways to show caring for others. In this version, the woodcutter rescues both Granny and Red. The program encourages reading and sharing of children's literature; provides opportunity to discuss meaning and purpose of fairy tales; and facilitates integration of language arts, drama, art, and music.

***Remaking Society in the New Nation* (Colonial and Founding Period Series) by Encyclopedia Britannica Educational Corporation (Video)**

This presentation considers the dilemmas faced by the United States in its first years as an independent nation. Individuals from several walks of life discuss the problems facing them and the nation as a whole, as events unfold in the period between the signing of the Declaration of Independence in 1776 and the convening of the Constitutional Convention in 1787. Sequences identify problems created by the Articles of Confederation; illustrate differences of opinion regarding voting rights; and present the concerns of women slaves, Native Americans, rich landholders, merchants, and the common man. The program encourages discussion of human rights and facilitates the integration of social sciences and language arts.

***Research Paper Writer* by Tom Snyder Productions (CD-ROM)**

This program is designed to take students through the steps of writing a research paper by choosing a topic, conducting research, taking notes, and writing the paper. The program has numerous choices throughout that offer help and guide students through the process in small steps. It helps students learn about library resources, research techniques, and interviewing skills. It works well with individuals or small groups. The five disks the program is on means a lot of disk swapping. The program is well-organized and interesting although the disk swapping can lead to student frustration. The program is broad-based and integrates a number of skills.

***Roaring Twenties* (United States History Series) by Schlessinger Media (Video)**

This production examines the events and culture of the Roaring Twenties. Segments (a) describe the Return to Normalcy, automobile culture, flappers, and the revolution in manners and morals; (b) discuss the consumer revolution and the rise of advertising, motion pictures, and the Industrial Revolution; (c) depict the Harlem Renaissance and

the Jazz Age, social polarization, prohibition, the rebirth of the Ku Klux Klan, the Scopes Trial, and the golden age of sports; and (d) feature documents, dates, facts, imagery artifacts, historical reenactments, and interviews with historians. This program facilitates integration of history, social sciences, and language arts.

***Rumpelstiltskin* (Reading Rainbow Series) by Great Plains National Instructional Television (Video)**

This classic fairy tale, retold and illustrated by Paul O. Zelinsky, comes to life when LeVar Burton visits a Renaissance festival in California, experiencing what it was like to live in days of knights in shining armor. *Sleeping Beauty* is highlighted in the student book review sequence. The program encourages students to read good books and to utilize their public libraries. The presentation design promotes using short segments during any one class session.

***Sammy's Science House* by Edmark Corporation (CD-ROM)**

Five activities encourage students to observe, classify, construct, compare, and experiment. Students create machines and toys, explore weather conditions, create short films, sort pictures, and discover seasonal changes. An "Explore and Discover" mode helps students to develop thinking skills and promotes creativity. The "Question and Answer" mode provides an opportunity to practice skills and assess understanding.

***Science Court* by Tom Snyder Productions (CD-ROM). Can be seen Saturday mornings as part of "Squigglevision" on your local ABC-TV affiliate.**

This series mixes animated courtroom drama, hands-on science activities, and humor to teach students fundamental science concepts and model good scientific practice. As each case unfolds, students examine the facts and perform hands-on experiments to help them predict the verdict. Current titles include *Inertia, Work & Simple Machines, Soil, Seasons, Statistics, Electric Current, Water Cycle, Particles in Motion, Sound, Gravity, Living Things,* and *Fossils.*

***Sheep in a Shop* (Book a Day Series) by Houghton Mifflin (Video)**

This production, a video book developed by professionals at the California School for the Deaf, features Nancy Shaw's easy-to-read book about how five sheep worked together to get a birthday present for a friend. The pages of the book provide the background for the staff and students to transcribe American Sign Language (ASL). Closed captions, ASL interpretation, and narration offer the opportunity for deaf and hearing students to share a good book. The program fosters an appreciation for literature, stimulates language development, and facilitates the integration of language arts, economics, and guidance.

***SIRS Discoverer Deluxe* by SIRS Mandarin, Inc. (CD-ROM, Online Learning Experience)**

This interactive reference tool for elementary and middle school students is designed to help develop research, reading, writing, language, and computer skills. *SIRS Discoverer* is available in three editions with grade-appropriate reading levels: Elementary (grades 3-6), Middle (grades 5-9) and Deluxe (grades 3-9). *SIRS Discoverer Deluxe* provides full-text articles and graphics from more than 1,200 sources including domestic and international magazines, newspapers, and government documents. All editions include an encyclopedia, country facts, presidential and general biographies, photo essays, and a dictionary. On the Web version, Spotlight of the Month (updated hourly) and a thesaurus are included also. Articles can be retrieved by relevancy or date order on the Web version. *SIRS Discoverer Deluxe* is available on the Web individually or as an optional link from SIRS Knowledge Source, an on-line system that provides independent or integrated access to SIRS reference databases. All editions are available for Macintosh and Windows CD-ROMs, and are updated twice a year. The Deluxe edition is available on the Web and is updated monthly.

***Sitting on the Farm* by Theatrix/Sanctuary Woods (CD-ROM)**

This multimedia musical storybook in English, French, and Spanish is based on a song about a little girl with some very hungry friends. The program includes listen-along, read-along, sing-along, and write-along modes. Students can click on words to hear them pronounced, or to receive animated definitions. Students can record their own singing and add musical options for the background. Users are encouraged to write, to choose pictures for illustration, and then print out their own creative stories.

***SkillsBank 4* by SkillsBank Corporation (CD-ROM).**

This program is designed to be a comprehensive resource for diagnosing and remediating basic skills in six areas—core reading, language arts, writing, basic math, intermediate math, and information skills (study skills). It generally uses a pre-test, lesson, practice, quiz, and post-test format. It can supplement teacher-led instruction and reinforce concepts learned in class. Free access to modules can be given to students, or they can be assigned to a specific module. Features include a management or security system, math worksheet generator, on-line tutorial and help, graphics, and print options for a wide variety of reports.

***Society in Transition: Multiculturalism in the U.S.* by Turner Multimedia (Video)**

This CNN Newsroom Special explores the changing ethnicity in the Los Angeles area. Segments (a) examine cultural change in the neighborhoods, schools, and workplace; (b) discuss reasons for changing demographics; (c) note the influence of English in bridging cultural gaps; (d) investigate the difficulty of students learning to balance the traditions of parents with new cultural expression; (e) illustrate the impact of cultural differences in the workplace; (f) define and differentiate terms; and (g) outline the problems of racism, stereotyping, and prejudice. The organization provides natural pauses for questions, discussion, and extension. The program encourages discussing global issues and facilitates the integration of social sciences, guidance, and career education.

***Spanish Tutor* by Webster's New World (CD-ROM)**

A world leader in language reference presents this innovative way to develop and use language skills. Improve speaking, reading, and writing skills by listening to native speakers and using the record and playback functions. This program also includes grammar exercises and on-screen translation, as well as other features.

***Spatial Relationships* by Tenth Planet (CD-ROM)**

This program, one of six in a series on geometry, presents mathematics-based investigations designed to assist young students in developing a foundation of spatial abilities and the language needed to communicate about spatial relationship in the world. Multimedia and hands-on activities are combined with examples from cultures, art, architecture, and nature. Students are given an opportunity to explore concepts of position and path. Positional words are introduced and illustrated to help students develop an awareness of their spatial environment. A glossary of shapes and words is part of the program.

***Spirit to Spirit: Nikki Giovanni* by Direct Cinema Limited (Video)**

This production details the poetry of Nikki Giovanni against the background of her times: Civil Rights struggle, Vietnam War, and Women's movement. This Black poet's works present a mosaic of themes related to art, race, sex, and humanity. The program uses Nikki's performance footage, interview material, archival footage (Martin Luther King, Jr. and Civil Rights protest of the 1960s), still photographs, visual imagery, and an original musical score. The presentation encourages discussion and appreciation for the reading and writing of poetry, and provides an excellent role model for students.

***Spotlight on Literacy* by McGraw-Hill School Division (CD-ROM)**

"Multimedia Literature" presents reading selections for grades 3-5 with a writing tool to accompany suggested activities. "Sights and Sound" is a K-2 program that matches sounds with print. "Tronic Phonics" for grades K-2 includes activities to strengthen phonics and decoding skills; students can record and then listen to their own voices. "Story Web" CD-ROM for grades 1-2 features literature with activities, phonics lessons, and word processing. The multimedia strand "Tronic Phonics" has a Spanish language counterpart, "Con Ton y Son."

***STV: Solar System* by National Geographic Society (Computer-Interactive Videodisc)**

This production explores the solar system, highlighting each of the planets and the sun. Segments describe scientific tools and methods used to study the universe, note different theories of creation, and specify characteristics for comparison purposes. Computer-enhanced imagery, animated sequences, photographs, and commentary clarify concepts and provide lifelike views of planetary phenomena. Features allow viewers to create presentations. The program fosters critical thinking, encourages further study, and facilitates integration of science, social sciences, career education, and language arts.

***Stained Glass* (Architecture Art Series) by Lucerne Media (Video)**

This program explores the development of the art of stained glass from its conception in the Middle Ages to today. Segments (a) offer a historical perspective by explaining that the first windows were used to teach, to promote the various guilds, and to honor the gentry and nobility; (b) describe Biblical stories that formed the bulk of the instructional windows; (c) show outstanding examples of stained glass windows; (d) explain the process of creating this art form through step-by-step demonstrations; and (e) show how the glass is stained to achieve the various colors. This program encourages an appreciation and exploration of the art form.

***Star-Spangled Banner* by Weston Woods Studios (Video)**

This production introduces the national anthem through Peter Spier's book. Segments describe the history of our national anthem, feature a military band playing "The Star Spangled Banner," identify Francis Scott Key as the composer, depict American symbols of freedom, and encourage viewers to develop feelings of patriotism. This video reinforces the ability to recognize and sing our national anthem.

***Start to Read!* by School Zone (CD-ROM)**

Each set contains two different stories on CD-ROM as well as in book format. Each story features rhyming and repeated words, picture clues, and short sentences for early reading success. Click on words and objects on every page to enter the picture dictionary and to see humorous animations. Students can create their own stories using background sense, picture stamps, drawing tools, and word stamps.

***Stellaluna* (Reading Rainbow Series) by Great Plains National Instructional Television (Video)**

The featured book tells the story of a baby bat who is separated from her mother and ends up being raised by a family of birds. Host LeVar Burton discovers nocturnal animals and explores the world of slumber and dreams. Children review *Amazing Bats* by Frank Greenaway, *Sleep Is for Everyone* by Paul Showers, and *Step into the Night* by Joanne Ryder. The program encourages students to read good books and to utilize their public libraries. The presentation design promotes using short segments during one class session and suggests ways to integrate literature across the curriculum.

***Storybook Weaver and Storybook Weaver DE-LUXE* by Learning Company (CD-ROM)**

This creative writing toolkit allows students to write and illustrate stories and books. The program provides 650 images, 468 scenery combinations, 41 sounds, 13 songs, 11 page borders, and 5 type styles. Selection, combination, and integration of these items into a story is easily done and the student may use any or all of the elements in any combination or order. One feature permits the user to select human skin tones, allowing them to reflect different cultures in their writing. Students are attracted by the graphics, the ease of use, and the program's open-ended creative aspects. All stories and illustrations can be printed. Two supplementary programs are available: *Storybook Weaver: World of Make Believe* and *Storybook Weaver: World of Adventure* (developed by MECC).

***Storyteller* by MultiMeanings Company (CD-ROM)**

This multimedia CD-ROM uses on-line video, interactive software, audio recordings, student books, and teacher resources to form a rich cross-disciplinary teaching and learning unit. The on-line video features a Native American telling ancient and powerful stories linking the tribe's past to the present. Other elders use a combination of words, Native American art, and songs to tell their stories. Interactive options provide an opportunity to explore this rich environment with related information in dictionary format, videos, interviews, songs, encyclopedic facts, and activities. The "Teach" option provides instruction for activities in drama, art, music, and games. Math, science, social sciences, and language arts skills are addressed in the lessons. Easy access to a word processing program allows students to connect writing activities to the content. Both text and audio can easily be alternated between English and Spanish. The material is complete, but demands a time commitment from the teacher to become familiar with all that is available.

***Sunken Treasure* (Reading Rainbow Series) by Great Plains National Instructional Television (Video)**

Robert Morse reads this book by Gail Gibbons. An old treasure map leads host LeVar Burton on an exciting treasure hunt at Pirates Cove in California. He uses every device known to man to find a treasure, including a trusty bloodhound. Dr. Robert Ballard of the Woods Hole Oceanographic Institu-

tion of Massachusetts describes how science and technology enabled him to locate and explore the most famous shipwreck in history–the Titanic. The program encourages students to read good books and to utilize their public libraries. The presentation design promotes using short segments during any one class session.

***Super Tutor Composition* by Super Tutor (CD-ROM)**

If your students need help starting a paper, polishing sentences, doing research, expressing themselves in poetry, writing a newspaper column, or even landing a new job, *Super Tutor Composition* has the answers. Join space alien Rozzwell as he learns writing skills for almost every occasion. Tour the Writer's Workout Room, the Style Planet, Research Park, the Press Room, and the Wonderful World of Me! The program includes quizzes and fun writing activities. Students can post masterpieces on the Web in the Writer's Studio.

***Super Tutor Geometry* by Super Tutor (CD-ROM)**

This program offers friendly, understandable tutorials covering one full year of high school geometry. The lessons include step-by-step animations, videos illustrating key points, easy bookmarking and search functions, and stress-free quizzes. Topics include circles, triangles and quadrilaterals, parallel and perpendicular lines, coordinate and space geometry, angle measurement and vectors, points, area, circumference, planes reasoning, equality and similarity, plus non-Euclidean geometry.

***Surprise Present* (Time for Math Series) by Benchmark Media (Video)**

This program, one of a series, develops a math concept as it tells a story about a farm. Segments (a) introduce concepts of shape, color, distance, and time; (b) demonstrate shapes and their relationship to other items; (c) feature visuals and music to reinforce the concepts; (d) compare different sizes and shapes of packages; (e) explore the connection between a package and the item within it; and (f) demonstrate the concept following the story. This video explains and reinforces the concepts of shapes, color, distance, and time.

***Survival Guide to Consumerland* by AGC United Learning (Video)**

This production investigates consumer behavior. Segments observe shoppers in a mall, analyze types and kinds of purchases, and interview shoppers. Sequences identify physiological motives related to shopping, examine advertising and marketing practices, and review shopper reaction to internal and external pressures. Experts discuss the common patterns of compulsive shopping and overspending, and suggest some options to remedy this kind of behavior. The program encourages responsible consumer behavior, offers discussion and research topics, and facilitates the integration of social sciences, guidance, and home economics.

***Sustaining America's Agriculture: High Tech and Horse Sense* by New Dimension Media (Video)**

This video investigates how modern agricultural science is working to improve production. Segments (a) discuss how yields are increased, (b) examine land management, (c) describe efforts to preserve the environment and reduce agricultural waste, (d) explain water conservation, (e) highlight biological pest control, (f) outline the future of agriculture, (g) illustrate innovations in farming equipment, and (h) delineate commodity trading and marketing. This presentation promotes critical thinking, supports the discussion of global issues, and facilitates the integration of social sciences, science, and career/vocational education.

***Tangible MATH: Stats!* by LOGAL Software, Inc. (Online Learning Experience, CD-ROM)**

This program provides an environment for the study and manipulation of statistics. Students can enter quantitative and qualitative data into cells and use a classification tool to order their data. Tally sheets display data by count, relative frequency, or percentage. Graphic representations include pie charts, pictograms, bar charts, scatter diagrams, and accumulated frequency graphs. The program also includes mode, mean, median, quartile, and box plots. Students can manipulate data directly on graphic representations or compare two variables on one display. Work may be saved and printed.

***Teen Wellness: The Whole Picture* by Sunburst Communications (Video)**

This presentation examines the importance of a wellness lifestyle. Segments (a) stress the importance of nutrition, exercise, and rest; (b) illustrate the food pyramid; (c) compare and contrast food choices; (d) illustrate how to calculate fat content; and (e) demonstrate stress reduction techniques. Humor and graphics combine with the fictionalized

world of TV soap opera to communicate the wellness concepts. The program offers oral and written discussion topics, promotes good health habits, and facilitates the integration of health, social science, guidance, and language arts.

The Computer Classroom Series: Second Grade **(Preschool through Sixth Grade) by Forest Technologies (CD-ROM)**

This series is designed to develop learning in key areas of the school curriculum. Each level keeps a record of units completed. The student can choose any unit to try on any level of any title. Lessons employ the best teaching practice and are developed from the primary school curriculum. Each level of *The Computer Classroom Series* has over 15 hours of interactive lessons.

Thinkin' Science Zap! **By Edmark Corporation (CD-ROM)**

This program demonstrates the basics of the scientific method: hypothesis, experimentation, observation, and deduction. Students (a) explore a child-friendly open-ended research and reference tool, (b) identify animal tracks, (c) predict the trajectory of a ball, (d) interpret data, (e) apply problem-solving strategies relating to the rotation of the earth, (f) measure and observe lengths of the arc of a pendulum and relative weights of a ball, (g) manipulate variables to solve physics problems, and (h) use measurement and data interpretation to apply problem-solving strategies.

TimeLiner **by Tom Snyder Productions (CD-ROM)**

This highly versatile program uses a printer to generate time lines ranging from hours to centuries. Students can select one day, one week, one year, many years, 10 billion years, or develop a unique scale. These can be created, illustrated, and printed in single page or banner length. Time lines can be exported to other programs or the user may add pictures created in paint programs. A merge feature allows students to combine and compare two separate time lines. Scales of time, weight, distance, etc., may be selected. Also available in Spanish version.

Ultimate Writing and Creativity Center **by The Learning Company (CD-ROM)**

There are eight tutorials designed to guide students into the writing process. Writing activities, divided by grade level, give students an opportunity to use information from the tutorials in their own writing. The third section of the program offers cross-curricular activities. There are many choices for clip art, and there are ideas to help "jump-start" student writing. There also is information to help students with the writing process and various tools for them to use.

Van Gogh Revisited **by Voyager (Videodisc)**

This computer-interactive videodisc celebrates the artist and his work. Segments (a) describe impressionism and its advocates, (b) compare Seurat and Van Gogh, (c) discuss the legacy of Brabant, (d) suggest reasons why Van Gogh left Paris, (e) highlight recurring themes and styles, and (f) note Japanese influence on the art of the period. Narrator Leonard Nimoy brings the artist and his works to life in settings where Van Gogh actually lived and worked. The catalogue organizes the works of art by title, date, place of execution, and current location. The program encourages browsing and independent study, fosters art appreciation and cultural heritage, and facilitates the integration of art, music, and social sciences.

Vital Links **by Knowledge Adventure, Inc. (Computer-Interactive Videodisc)**

This program was produced in 1995 by the California, Florida, and Texas education departments. It is a multimedia U.S. history curriculum program with comprehensive lesson plans and a wealth of activity suggestions. Six units can be used independently or in combination and each covers a different time period. The program includes a rich database of maps, pictures, songs, first-person accounts, movies, etc. Tools include desktop publishing/word processing, a paint program, a multimedia presentation program, a spreadsheet, and graphing. The instructional goals of the program are to teach students key concepts in U.S. history, to encourage students to explore and become engaged in the content, to facilitate collaborative learning, and to give students opportunities for language development.

Walking on Air **(WonderWorks Series) by Public Media, Inc. (Video)**

This production dramatizes a story by Ray Bradbury. Segments depict how a boy confined to a wheelchair pursues his dream of becoming an astronaut. Episodes reveal the determination of the boy and support of his teacher as he learns to defy gravity. The presentation provides an understanding

of the disabled, sensitivity to their feelings, and determination to overcome obstacles. The program promotes the reading of good literature, supports thematic instruction, and facilitates the integration of language arts, social sciences, guidance, and science.

***Water Cycle* (Science Court Series) by Tom Snyder Productions (CD-ROM)**

See "Science Court."

***Where in the World is Carmen Sandiego?* by Broderbund Software, Inc. (CD-ROM)**

Students use The World Almanac to track down Carmen and her nefarious gang as they travel from country to country. The program encourages problem-solving and critical-thinking skills. Students must do a lot of research and reading to succeed. The program is fun and easy to use, though first-time users may need assistance. It helps improve map skills and vocabulary while increasing students' knowledge about the countries of the world. It can be played by an individual, a small group, or an entire class. The program combines real information with humorous fancy, in a non-gender-specific, non-competitive format that is involving and challenging to students with a wide variety of ability levels. The CD-ROM version includes new villains and new cases with digitized graphics of many locations provided by National Geographic, and examples of folk and traditional music characteristic of each location.

***Words Around Me* by Edmark Corporation (CD-ROM)**

This step-by-step program introduces 275 common vocabulary words and 186 plurals in English or Spanish. Words for people, places, things, and action are presented in categories. Five activities and four review games provide opportunities for student progress and reinforcement. In the Hide and Seek game, students are asked to find the "Greenie" character hiding behind an object. In Make-A-Match, students match pictures and words using a concentration game format. The Picture Puzzle helps students build spatial awareness and visual closure skills. Teachers may individualize instruction by selecting levels of difficulty and specific activities for each student through the management system. Students must complete each activity before moving to another. Student Records gives complete assessment information for each activity.

***World of Charles Dickens* by CLEARVUE (Video)**

This production chronicles the life and times of Charles Dickens, one of the greatest novelists in English literature. Sequences detail Dickens at age 12 working in a factory 12 hours a day for 12 shillings; as a journalist reporting on the First Reform Act; as witness to the workhouse where children worked under cruel and harsh conditions; and as a well known writer and man of wealth. Segments stress that his experiences made him a lifelong supporter of social and political reform. This program shows the great achievements of the Industrial Revolution side by side with the injustices and discrepancies brought about by the same events.

***Write:OutLoud* by Don Johnston Incorporated (CD-ROM)**

This award-winning, easy-to-use, powerful talking word processor includes a talking spell checker. The program helps get class work done and makes students enjoy writing. Listening to words encourages reluctant writers and eliminates frustration.

***Writing Tutor* by Simon & Schuster Interactive (CD-ROM)**

Essays, book reports, reviews, scientific analysis, product descriptions, advertising copy, creative prose—any writing assignment can be tackled with *Writing Tutor*. This critically-acclaimed CD supplies a network of more than 50 writing process tools and activities including topic webs, idea sheets, photo storyboards, inspirations, and much more.

Software Publishers / Producers

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AlphaSmart, Inc.
http://www.alphasmart.com

Avid Technology, Inc.
http://www.avidcinema.com/products/index.html

Barr Films
http://www.ntb.ca/FMT/E/copr/Barr_Films.html

Benchmark Media
http://www.benchmarkmedia.com

Bergwall Productions, Inc.
http://bergwall.com

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Don Johnston, Inc.
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http://www.hmco.com

Human Relations Media
http://www.communique.net/~aml/tdefault.htm

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http://www.ingenuityworks.com/

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http://www.intellitools.com/

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http://www.mhschool.com/

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National Geographic Society
http://www.nationalgeographic.com/

New Dimension Media
http://www.btsbbooks.com/ndm/index.htm

NIH Image
http://rsb.info.nih.gov/nih-image/about.html

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http://www.carnet.hr/news/media_eng.html

Pyramid Media
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Rainbow Educational Media, Inc.
http://www.rockhillpress.com/onoff/pubdist/cumvids/cumvidr.htm

Schlessinger Media
http://www.libraryvideo.com/sm_home.asp

School Zone
www.schoolzone.com

Scion Corporation
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http://www.superlibrary.com/Family/11410325.HTM

SIRS Mandarin, Inc.
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Skills Bank Corporation
http://www.skillsbank.com

Spoken Arts
http://pages.prodigy.com/SpokenArts/

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Sunburst Communications
http://www.nysunburst.com

Super Tutor
http://www.supertutor.com/html/sales/promotion.htm

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Theatrix/Sanctuary Woods
http://www.theatrix.com/products/mathheads/product_calloverview.html

Tom Snyder Productions
http://www.teachtsp.com

Turner Multimedia
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